Chapter 01
Review and Applications of Basic Mathematics

Multiple Choice Questions

1. Evaluate 8 - 5 ´ 2 - 3 =
A. -5
B. 3
C. 5
D. -3
E. 15

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

2. Evaluate 8 - 4 ´ (2 - 3) =
A. -4
B. 12
C. 5
D. 11
E. 4

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

3. Evaluate 18 ÷ 3 + 8 - 4 ´ 2 - 3 =
A. 17
B. 25
C. 3
D. 11
E. 4

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

4. Evaluate $18 \div 3 + (8 - 4) \times (2 - 3) =$
A. -10
B. 17
C. -18
D. 2
E. 4

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

5. Evaluate $8 - 4 \times (2 - 3)^2 =$
A. 25
B. -1
C. 12
D. 17
E. 4

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

6. Evaluate $6 - 2 + 3 \times (2 - 3)^2 =$
A. 7
B. 12
C. -12
D. -1
E. 1

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

7. Evaluate the following:

$$\frac{3(2+1)^2 + 5^2}{4 - 3^2}$$

A. -7.4
B. -10.4
C. -14.8
D. 10.4
E. 7.4

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

8. Evaluate $3(8 - 4)^2 \times (2 - 3)^2$ =
A. 400
B. -400
C. 48
D. -48
E. 93

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

9. Evaluate $3[4 + (5 - 3)^2]^2$ =
A. 256
B. 38,416
C. 3,600
D. 192
E. 576

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

10. Evaluate $(2 - 3 \times 4)^2 - 5 \times (5 - 6)^2$ =
A. 11
B. 125
C. -21
D. 95
E. 395

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

11. Evaluate $(8 - 5 \div 2) \div (12 \times 3 - 6)$ =
A. 5.4545
B. 0.05
C. -0.1528
D. 6.5454
E. 0.1833

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

12. Evaluate $(8 \div 5 - 2) \div (12 - 2 - 4)$ =
A. 2.4
B. -0.067
C. -2.4
D. 0.444
E. -l.0

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

13. Evaluate -14(2) + 16 ¸ 32 + 4 =
A. -22
B. -24.5
C. $-28\frac{4}{9}$
D. $-24\frac{4}{9}$
E. -23.5

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

14. Evaluate $(25 - 9) \div (6 - 2)^2 =$
A. 256
B. 1
C. 8
D. 4
E. 0.5

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

15. Evaluate
$$\$1200\left(1+.0625\times\frac{7}{12}\right)$$

A. $743.75
B. $1,725.00
C. $700.04
D. $1,637.50
E. $1,243.75

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

16. Evaluate

$$\$1000\left(1+.045\times\frac{17}{12}\right)$$

A. $1,063.75
B. $1,416.73
C. $1,765.00
D. $1,637.50
E. $1,480.42

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

17. Evaluate

$$\$750\left(1-.0575\times\frac{150}{365}\right)$$

A. $749.98
B. $732.28
C. $308.20
D. $572.77
E. $767.72

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

18. Evaluate

$$\$650\left(1-.0625\times\frac{21}{12}\right)$$

A. $1,137.39
B. $721.09
C. $578.91
D. $446.88
E. $576.06

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

19. An equivalent fraction to $\frac{12}{16}$ is?

A. $\frac{2}{3}$

B. $\frac{6}{8}$

C. $\frac{2}{6}$

D. $\frac{1}{4}$

E. $\frac{4}{3}$

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-02 Fractions

20. Evaluate $\frac{\$1050}{\left(1+\frac{0.065}{12}\right)^{3}}$

A. $1,067.16
B. $1,035.95
C. $896.32
D. $1,033.12
E. $1,502.05

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

21. Evaluate

$$\frac{\$25,000}{\left(1+\frac{0.07}{12}\right)^{4}}$$

A. $25,588.46
B. $19,927.38
C. $19,072.38
D. $24,855.01
E. $24,425.08

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

22. Evaluate:

$$\frac{\frac{3}{4}+\frac{7}{5}}{\frac{11}{6}-\frac{10}{12}}=$$

A. 0.465
B. 0.80625
C. 1.24031
D. 12.9
E. 2.15

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-02 Fractions

23. Evaluate

$$\frac{5-(6-14)}{200-0.25\times\frac{3000}{15}}$$

=
A. 0.1267
B. 0.052
C. 0.0867
D. 0.076
E. -0.07667

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

24. Evaluate

$$16 - 4\left(1 - 0.3 \div \frac{435}{650}\right)$$

=

A. 6.621
B. 17.379
C. 13.793
D. 10.207
E. 12.803

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

25. Evaluate

$$\frac{\$1500\left(1 + 0.055 \times \frac{3}{12}\right)}{1 + 0.10 \times \frac{9}{12}}$$

A. $1,414.53
B. $1,843.18
C. $348.85
D. $454.56
E. $1,625.58

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

26. Evaluate

$$\frac{\$1750\left(1+\frac{0.11}{4}\right)^{3}}{1+0.075\times\frac{275}{365}}$$

A. $1,701.95
B. $1,796.85
C. $2,265.35
D. $1,897.86
E. $2,392.70

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

27. Evaluate

$$\$20,000\left[\frac{\left(1+\frac{0.05}{2}\right)^{4}-1}{\frac{0.05}{2}}\right]$$

A. $172,405.00
B. $82,207.63
C. $83,050.31
D. $41,525.16
E. $86,202.50

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

28. Evaluate

$$\$675\left[\frac{\left(1+\frac{0.065}{4}\right)^{6}-1}{\frac{0.065}{4}}\right]$$

A. $2,766.53
B. $1,054.53
C. $19,072.06
D. $4,218.14
E. $45,756.60

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

29. Evaluate

$$\frac{\$900}{\frac{\left(1+\frac{0.055}{4}\right)^{7}-1}{\frac{0.055}{4}}}$$

A. $493.46
B. $27.22
C. $900.00
D. $84.52
E. $123.36

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

30. Evaluate

$$\frac{\$2500}{\frac{\left(1-\frac{0.065}{2}\right)^{4}+1}{\frac{0.065}{2}}}$$

A. $43.31
B. $38.03
C. $86.61
D. $83.98
E. $48.51

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

31. Determine the final value of

$$\frac{780}{1+0.892\times\frac{280}{365}}$$

A. 463.11
B. 475.23
C. 680.12
D. 925.44
E. 880.81

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

32. Determine the final value of

$$1{,}800\left[\frac{1+\frac{1}{(1+.04)^3}}{.04}\right]$$

A. 45,007.22
B. 85,004.84
C. 102,075.67
D. 12,145.88
E. 16,826.67

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

33. Determine the final value of

$$440\left[\frac{1-\frac{1}{(1-.075)^{23}}}{.04}\right]$$

A. 12,814.55
B. -40,321.87
C. -55,089.56
D. -78,921.47
E. 98,921.54

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

34. Calculate the final value of the following equation

$$\frac{8{,}600\left(1+0.092\times\frac{155}{365}\right)}{1+0.154\times\frac{81}{365}}$$

A. 8,640.69
B. 8,122.68
C. 5,867.98
D. 1,882.57
E. 5,345.43

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

35. Calculate the final value of the following equation

$$10{,}200\left[\frac{\left(1+\frac{.15}{4}\right)^{6}-1}{\frac{.15}{4}}\right]$$

A. 23,841.35
B. 42,514.98
C. 67,232.57
D. 80,141.68
E. 92,654.12

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

36. Calculate the final value of the following equation

$$\frac{1{,}850}{\left(1+\frac{.125}{12}\right)^{4}}$$

A. 1,150.45
B. 1,385.61
C. 2,128.47
D. 1,774.88
E. 2,235.47

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

37. Evaluate

$$\$110\left[1-\frac{3}{\left(1+\frac{0.085}{12}\right)^{5}}\right]-\frac{\left(1+\frac{0.085}{12}\right)^{4}}{\frac{0.085}{12}}$$

A. -$404.21
B. -$353.78
C. -$185.74
D. -$208.56
E. -$145.22

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

38. Evaluate

$$\$1500\left[1+\frac{1}{\left(1-\frac{0.04}{12}\right)^{3}}\right]-\frac{\left(1+\frac{0.04}{12}\right)^{3}}{\frac{0.04}{12}}$$

A. $1,489.85
B. $2,892.41
C. $2,712.09
D. $1,177.64
E. $1,818.11

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

39. Evaluate 0.5 ´ 0.001 =
A. 0.0005
B. 0.005
C. $\frac{51}{10,000}$
D. $\frac{3}{2000}$
E. 5,000

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-07 The Basic Percentage Problem

40. Evaluate

$$\frac{\frac{6}{7}+\frac{2}{3}}{\frac{3}{7}}$$

=

A. 24.89
B. 3.556
C. 4.190
D. 6.429
E. 5.071

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-02 Fractions

41. What amount is 230% of $450?
A. $103,500
B. $1.035
C. $51.11
D. $1,035
E. $195.65

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

42. What amount is 0.04% of $200,000?
A. $8,000
B. $800
C. $8
D. $.80
E. $80

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

43. $135 is what percent of $2,750?
A. 4.9%
B. 0.49%
C. 20.4%
D. 0.204%
E. 49.1%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

44. $4.55 is what percent of $9,100?
A. 0.0005%
B. 0.05%
C. 0.5%
D. 5%
E. 20.0%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

45. What percent of $5,000 is $675?
A. 0.135%
B. 1.35%
C. 13.5%
D. 7.4%
E. 0.74%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

46. What percent of $65 is $1625?
A. 25%
B. 2.5%
C. 250%
D. 2,500%
E. 0.25%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

47. 78% of what amount is $249.60?
A. $194.69
B. $70.40
C. $444.29
D. $373.89
E. $320

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

48. Express as a percent:

$$\frac{40.3}{80}$$

A. 50.375%
B. 0.0050375%
C. 0.50375%
D. 5.0375%
E. 503.75%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

49. 24% of what amount is $162?
A. $675
B. $38.88
C. $513
D. $123.12
E. $389.88

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

50. $8.75 is 0.0⅞ % of what amount?
A. $100
B. $10,000
C. $1,000
D. $1
E. $100,000

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

51. $4.50 is 0.0¾ % of what amount?
A. $60
B. $600
C. $6,000
D. $60,000
E. $6

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

52. 315 is 1.7% of what number?
A. 18,529.41
B. 17,061.38
C. 12,236.42
D. 9,785.60
E. 8,819.30

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

53. Janet earned $78,000 last year. Tax rate earned on the first $20,000 is 15%; 25% on the next $25,000 and 30% for the remainder of income. What was the amount of tax paid?
A. 18,200
B. 19,150
C. 20,250
D. 22,000
E. 22,500

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-07 The Basic Percentage Problem

54. David earned $59,000 last year. Tax rate earned on the first $20,000 is 15%; 25% on the next $25,000 and 30% for the remainder of income. What was the average tax rate?
A. 25%
B. 24.15%
C. 23.33%
D. 22.85%
E. 21.22%

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-07 The Basic Percentage Problem

55. Nitin earns $48,000 per year. Determine his gross earnings each pay period in a year if he is paid biweekly. Assume there are 52 weeks in the year.
A. $2,000
B. $4,000
C. $923.08
D. $1,846.15
E. $1,923.08

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

56. Nitin earns $48,000 per year for a forty-hour workweek. Determine his hourly rate of pay if he is paid biweekly. Assume there are 52 weeks in the year.
A. $250.00
B. $24.04
C. $46.50
D. $50.00
E. $23.08

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-10 Hourly Wages

57. Nitin is paid a base salary of $200 per week and commission at the rate of 3% for sales over $5,000, 4% if his sales are over $8,000, and 5% if sales are over $15,000. How much will Nitin earn in a week in which his sales are $20,000?
A. $1,200
B. $1,000
C. $800
D. $600
E. $200

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

58. Nitin is paid a base salary of $300 per week and commission at the rate of 2.5% for sales over $5,000, 4% if his sales are over $10,000, and 4.5% if sales are over $25,000. How much will Nitin earn in a week in which his sales are $20,000?
A. $800
B. $1,100
C. $900
D. $1,200
E. $1,125

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

59. Nitin is paid on a graduated commission scale. His base salary is $250 per week and he receives commission at the rate of 2.5% for the first $5,000 of sales in a week, 4% on the next $10,000, and 4.5% on all further sales. How much will Nitin earn in a week in which his sales are $30,000?
A. $1,200
B. $1,350
C. $1,450
D. $1,600
E. $1,000

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

60. Nitin is paid on a graduated commission scale. His base salary is $1,500 per month and he receives commission at the rate of 2% for the first $10,000 of sales in a month, 3% on the next $20,000, and 4.5% on all further sales. How much will Nitin earn in a month in which his sales are $60,000?
A. $2,150
B. $2,250
C. $3,750
D. $3,650
E. $2,500

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

61. A sales representative is paid the greater of $950 or 8% of sales. At what volume of sales will he start to earn more from the commission-based compensation?
A. $9,500
B. $1,026
C. $1,875
D. $1,187.50
E. $11,875

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

62. Nitin is paid on a graduated commission scale. He receives commission at the rate of 2.5% for the first $5,000 of sales in a week, 4% on the next $10,000, and 4.5% on all further sales. What is Nitin's average rate of commission in a week in which his sales are $30,000?
A. 3.67%
B. 4%
C. 3.33%
D. 3.75%
E. 4.25%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

Fred is paid an annual salary of $45,800 on a biweekly schedule for a 40-hour work week and 26 biweekly periods per year.

63. What is his gross salary per pay period?
A. $1,908.33
B. $1,815.93
C. $1,616.18
D. $1,755.51
E. $1,761.54

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

64. What is his hourly pay rate?
A. $44.44
B. $43.89
C. $47.71
D. $44.04
E. $38.76

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-10 Hourly Wages

65. What is his total remuneration for a two-week period in which he worked 4.5 hours overtime at time-and-a-half?
A. $2,058.81
B. $2,230.36
C. $1,858.23
D. $1,953.02
E. $2,051.75

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

66. Fred has an annual salary of $40,000.00. He is paid semi-monthly and his regular workweek is 40 hours. What is his regular salary per pay period?
A. $1,538.46
B. $1,458.33
C. $3,076.92
D. $1,666.67
E. $3,333.33

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

67. Nitin is paid on a graduated commission scale. He receives commission at the rate of 2% for the first $10,000 of sales in a month, 3% on the next $20,000, and 4.5% on all further sales. What is Nitin's average rate of commission in a month in which his sales are $60,000?
A. 3.167%
B. 3.417%
C. 3.583%
D. $5
E. 3.83%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

68. A sales representative is paid the greater of $1,275 per week or 9% of sales. At what volume of sales will she start to earn more from the commission-based compensation?
A. $14,166.67
B. $1,389.75
C. $2,295
D. $2,422.50
E. $12,750

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-11 Commissions

69. Stuart's regular rate of pay is $22 per hour. He is given 1.5 times the rate of pay for days he works over 37.5 hours. Determine the amount earned during a week where he worked 42 hours.
A. $770
B. $973.5
C. $1,065
D. $1,110
E. $1,200

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

70. Sandy is a commissioned car sales consultant, and receives weekly pay of $300 plus $250 commission for each vehicle sold. If Sandy, earned $4,450 last month, determine the number of vehicles sold.
A. 10
B. 11
C. 12
D. 13
E. 14

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

71. Nancy is a realtor and earns income based on a graduated commission scale. Nancy is paid $3, 000 plus 2.5% on the first $140,000; 1.5% on the next $300,000 and .5% on the remaining value over $440,000. Determine Nancy's commission earned after selling a $625,000 house.
A. $5,500
B. $6,400
C. $9,750
D. $10,860
E. $11,925

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

72. Marilyn is paid a base salary of $1,500 per month and a commission of 6% on all sales over $75,000. Last month, Marilyn's gross salary was $4440. What were her sales for the month?
A. $49,000
B. $75,266.40
C. $149,000
D. $124,000
E. $100,000

Accessibility: Keyboard Navigation
Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

73. Isaac earns a base salary of $1,250 per month and a graduated commission of 0.4% on the first $100,000 of sales, and 0.5% on sales over $100,000. Last month, Isaac's gross salary was $2025. What were his sales for the month?
A. $75,000
B. $200,000
C. $312,500
D. $250,000
E. $175,000

Accessibility: Keyboard Navigation
Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

Store A sold 30 units at $1.25 per unit.

Store B sold 60 units at $1.95 per unit.

Store C sold 9 units at $1.50 per unit.

74. Ignoring the quantities sold, what was the average unit selling price for the three stores?
A. $0.33
B. $1.57
C. $155.10
D. $51.70
E. $1.70

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-13 Simple Average

75. Recognizing the quantities sold, what was the average selling price per unit?
A. $0.33
B. $1.57
C. $155.10
D. $51.70
E. $1.70

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

76. Below is a list of the weekly sales for a retail company.

Monday $3,500.78
Tuesday $6,250.46
Wednesday $7468.33
Thursday $8,554.90
Friday $13,876.99
Saturday $22,897.43

Calculate the average sales for the week.
A. $5,357.98
B. $8,935.56
C. $10,424.82
D. $12,509.78
E. $62,548.89

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-13 Simple Average

77. Elita took six courses last semester. Her grades and course credits are as follows:

Course	Grade	Credits
Accounting	B+	4
Business Mathematics	A	4
Human Resources	B	3
Economics	C+	4
Computer Applications	C	2
Marketing	D	3

Use the Letter Grade to Grade Point Value conversion table below to calculate her grade point average for the semester.

Letter Grade	Grade Points
A+	4.0
A	4.0
B+	3.5
B	3.0
C+	2.5
C	2.0
D	1.0
F	0.0

A. 2.8
B. 2.7
C. 3.3
D. 3.0
E. 3.5

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

78. Jayelle took six courses last semester. Her grades and course credits are as follows:

Course	Grade	Credits
Finance	B+	4
Statistics	C	2
General Education	B+	3
Macro Economics	B	3
Cost Accounting	B	4
Computer Applications	A+	2

Use the Letter Grade to Grade Point Value conversion table below to calculate her grade point average for the semester.

Letter Grade	Grade Points
A+	4.0
A	4.0
B+	3.5
B	3.0
C+	2.5
C	2.0
D	1.0
F	0.0

A. 3.75
B. 3.2
C. 3.0
D. 2.6
E. 2.8

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

79. Kuldip invested $5,000 at 6%, $10,000 at 5.5%, and $20,000 at 4%. What is the average rate of interest earned by her investments?
A. 5.2%
B. 5%
C. 4.7%
D. 5.25%
E. 4.75%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

80. Carlos invested $10,000 at 7%, $20,000 at 6.5%, and $50,000 at 5%. What is the average rate of interest earned by his investments?
A. 6.2%
B. 5.5%
C. 5.8%
D. 5.6%
E. 6.3%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

81. A customer has a first mortgage of $100,000 at 5.5% and a second mortgage of $50,000 at 7.8%. What is the average rate of mortgage that the customer pays?
A. 6.7%
B. 7%
C. 5.9%
D. 6.5%
E. 6.3%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

82. A client has a first mortgage of $175,000 at 5.8% and a second mortgage of $25,000 at 6.7%. What is the average rate of mortgage that the client pays?
A. 5.9%
B. 6.3%
C. 6.5%
D. 6%
E. 6.2%

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

83. A class of 25 students wrote a term test. The results out of 30 marks are as follows:

Score:	10	15	20	25	30
Number of Students:	2	3	10	6	4

What was the average score on the test?
A. 20
B. 25
C. 22
D. 21.4
E. 17.5

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-13 Simple Average

84. An investor purchased shares of Acme Company as follows: 500 shares @ $10 per share, 10,000 shares @ $6.00 per share, and 1,000 shares at $4.00 per share. What is the investor's average cost per share?
A. $7.00
B. $6.00
C. $6.67
D. $23,000
E. $6.50

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

85. At the start of the year, Ajax Corporation had 300,000 shares outstanding. On May 1, 30,000 shares were issued. On September 1, another 50,000 shares were issued. Calculate the weighted average shares outstanding.
A. 336,667
B. 340,000
C. 346,667
D. 350,000
E. 367,667

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

86. At the start of the year, Sanford Corporation began the year with 750,000 in shares outstanding. On July 1, 60,000 shares were repurchased by the company, and another 40,000 shares were repurchased on December 1. Calculate the weighted average shares outstanding.
A. 706,000
B. 716,667
C. 726,667
D. 756,667
E. 806,667

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

87. A manufacturing operation began with 85 staff members. On April 1, 4 employees were hired; on June 1, 3 employees retired; and on November 1, another 3 employees were hired. Determine the average number of workers during the year.
A. 86.75
B. 88
C. 89.25
D. 91.25
E. 92.75

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

88. Sonal bought a coat for $172.37, which included 7% PST and 5% GST. What was the selling price of the coat?
A. $153.90
B. $193.05
C. $198.23
D. $196.50
E. $139.05

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

89. Sonal bought a new sound system for her car costing $616.31. Sonal lives in Calgary, and so the price included 5% GST. What was the selling price of the new sound system?
A. $647.13
B. $585.50
C. $586.96
D. $596.50
E. $627.87

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

90. Calculate the PST on a sweater costing $59.95 in Saskatchewan, Alberta, and Quebec. Use TABLE 1.2 as reference for the PST rates of the individual provinces.
A. $7.19; $3.00; $5.85
B. $3.00; $0.00; $5.85
C. $7.19; $0.00; $5.98
D. $3.00; $0.00; $5.98
E. $4.77; $0.00; $5.98

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

91. Calculate the PST on a jacket costing $89.50 in British Columbia, Manitoba, and Saskatchewan. Use TABLE 1.2 as reference for the PST rates of the individual provinces.
A. $6.27; $5.37; $7.16
B. $5.37; $7.16; $4.48
C. $5.37; $6.71; $7.16
D. $7.16; $6.71; $5.37
E. $6.27; $7.16; $4.48

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

92. A homeowner's tax statement lists the following mill rates for various municipal services:

Tax Rate	Mill Rate
Schools	6.75
City	7.21
Water	0.92
Sewers	0.87

What is the property tax on a house assessed at $300,000?
A. $4,464
B. $4,449
C. $4,725
D. $2,562
E. $2,700

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

93. M Studios (Calgary) had retail sales of $166,465.25, including GST, for the last quarter. In the same period M Studios purchased $45,000 worth of supplies and paid $75,000 for store renovations, plus the GST on these goods and services. What GST must be remitted by M Studios (or refunded) for the last quarter?
A. $1,926.92
B. $2,323.26
C. $1,907.10
D. $6,396.35
E. $1,920.29

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

94. M Studios (Quebec) had retail sales of $293,635.25, including PST and GST, for the last quarter. In the same period M Studios purchased $250,000 worth of supplies and paid the GST on these goods. What GST must be remitted by M Studios (or refunded) for the last quarter?
A. $11,765.91
B. $269.53
C. $10,301.40
D. $451.50
E. $275.61

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

95. If the mill rate increases by 0.25 mills, what will be the dollar increase in property taxes on a house assessed at $380,000?
A. $950.00
B. $0.95
C. $9,500
D. $95.00
E. none of these

Accessibility: Keyboard Navigation
Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

96. A homeowner's tax statement lists the following mill rates for various municipal services:

Tax Rate	Mill Rate
Schools	6.75
City	7.21
Water	0.92
Sewers	0.87

The homeowner paid $3937.50 in property taxes last year. What is the assessed value of his property?
A. $264,617
B. $265,509
C. $461,066
D. $250,000
E. $437,500

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

97. A piece of property valued at $2,000,000 is assessed for property tax purposes at 70% of its value. If the property tax is $20.00 on each $1,000.00 of assessed value, what is the amount of tax?
A. $23,700.00
B. $4,000.00
C. $28,000.00
D. $12,000.00
E. $40,000.00

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

98. Calculate the price including both GST and PST, that an individual will pay for a car sold for $26,995.00 in Manitoba (GST = 5%, PST = 8%)
A. $31,044.25
B. $30504.35
C. $28,884.65
D. $30,906.30
E. none of these

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

A municipality requires an extra $3,000,000 for its operating budget next year. The current mill rate is 8.3573 and the assessed values of properties in the municipality remains constant at $8.58 billion.

99. Calculate next year's mill rate.
A. 8.3497
B. 8.3923
C. 11.8538
D. 9.7684
E. 8.7070

Accessibility: Keyboard Navigation
Difficulty: Difficult
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

100. If the total of all assessed values rises by 5% over the current assessment, at what value must next year's mill rate be set?
A. 8.6903
B. 8.2923
C. 7.9923
D. 9.7684
E. 8.3906

Accessibility: Keyboard Navigation
Difficulty: Difficult
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

True / False Questions

101. The city of Vancouver has $8.4 billion in assessed value of property. The city collected $51.66 million in revenues. The mill rate was 6.15.
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

102. A car with a sticker price of $25,000 was purchased. With GST at 5% and PST at 7%, the final cost of the car was $28,000
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

103. The final price of a LCD television was $2,016 that included 5% GST and 7% PST. The value of GST and PST were $90 and $126 respectively.
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

104. Property taxes on land assessed at $750,000 and a mill rate of 1.1857 is $1,028.55
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

105. A recent poll of 2,000 Canadian families showed that 1,200 had 3 computers in the house; 400 had 2 computers; 250 had 1 computer and the remaining families had no computer. Based on this poll, the average Canadian household has 2 computers.
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

106. Trevor invested in Stocks, bond and mutual funds. His investment holdings consisted of twice as much bonds as stocks, and four times the amount of mutual funds as stocks. Last year stocks returned 4%, bonds 7% and mutual funds 2%. His average return for the year was 3.71%
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

107. Last month, Inessa made 3 orders to replenish inventory. Her first order was for 400 units at $15.25; the second order was for 300 units for $16.50 and the last order was for 525 units at $17.80. The average price of the units is $16.40.
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

108. Mike has a credit card debt of $7,000 at a rate of 14%, a car loan of $10,000 at 8% and a $250,000 mortgage at a rate of 6.5%. His average interest rate is 6.9%
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

109. At the start of the year, the marketing department of a large corporation was given a budget of $92,000 to spend. Actual spending amounted to $63,000 on advertising. Actual spending represents 87% of their budget.
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

110. A book author receives a 3.25% royalty from textbook sales. If the author received $65,000 as royalties, then total sales from textbooks were $2,000,000.
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

111. $8\frac{7}{9}\%$
of $13,500 is $1,185
TRUE

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

112. 15 is .7% of 2,142.86
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

113. 24 is 80% of 40
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

114. The value of
$\frac{7}{9}$
converted to four decimal places is 0.7778
TRUE

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

115. The value of
$\frac{1}{80}$
is .135
FALSE

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

116. The fraction $\frac{25}{10{,}000}$ converted to percentage form is .25%
TRUE

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

117. The fraction $\frac{.0875}{1.5}$ converted to percentage form is 5.833%
TRUE

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

118. Converting .65785 to percentage form is 657.85%
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

119. The value of $4(12 - 3)^3 - 4(20 - 33)^2$ is 2,240
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

120. The value of $(6 \text{ ´ } 3 - 4)^3 \text{ ¸ } (7 + 8 \text{ ¸ } 2^2)$ is 304.89
TRUE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

121. The value of [(30 + 7 ´ 4) - 9 ´ -5] ¸ - 3 is 34.33
FALSE

Accessibility: Keyboard Navigation
Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

122. The value of

$$350(1 - .075 \times \frac{60}{365})$$

is 345.68
TRUE

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

123. The value of $6[(22 + (5^2 - 12)^3]^2$ is $78,678
FALSE

Accessibility: Keyboard Navigation
Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

Short Answer Questions

124. How much more will a consumer pay for an item listed at $1,000 (pretax) in New Brunswick than in British Columbia?

$30.00

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

125. What are the taxes on a property assessed at $227,000 if the mill rate is 16.8629?

$3,827.88

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

126. The total assessed value of property in Brockton has risen by $97 million from last year's figure of $1.563 billion. The property tax rate last year for city services was $0.94181 per $100 of assessed value. If the city's budget has increased by $750,000, what tax rate should it set for the current year?

$0.93196 per $100

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

127. Jenna bought a car for $42,050.90, which included 8% PST and 5% GST. What was the selling price of the car?

$37,213.19

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

128. To attract shoppers, retailers occasionally advertise something like "Pay no HST!" Needless to say, neither the federal nor the provincial government is willing to forego its sales tax. In this situation, the retailer must calculate and remit the HST as though the "ticket" price already includes these sales taxes. How much HST must a Newfoundland retailer report on a $629 item that he sells on a Pay-No-HST basis? (Hint: What percentage is the HST of an HST-inclusive price?)

HST = $82.04

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

129. M Studios files GST returns quarterly. In the last quarter, M Studios sold picture frames totalling $3,750, photographic equipment for $78,225, and billed $43,580 for studio work. In the same time period, M Studios paid $2,000 for rent, $675 for utilities, and purchased goods subject to GST for $65,000. What GST must be remitted by M Studios (or refunded by the CCRA) for this quarter?

remit $2,894

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

130. Sam buys a sweater listed at $100. How much will he pay for the sweater including taxes in: a) Ontario? b) Quebec? c) Alberta? d) Prince Edward Island?

a) $113; b) $$114.98; c) $105; d) $115

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

131. The town of Simcoe is considering raising the $2 billion required for a sports complex by approving a new capital levy component of the property tax. The levy must be collected over the next five years. If the total assessed value of property in the town is $875 billion, what additional tax will a home owner of a property assessed at $300,000 pay?

$137.14

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

132. Jane took six courses last semester. Her grades and course credits are as follows:

Course	Grade	Credits
Accounting	B+	3
Business Mathematics	A	4
Human Resources	B	3
Economics	C+	3
Computer Applications	A	2
Marketing	B	3

Using the Letter Grade to Grade Point Value conversion table in Example 1.5D, calculate her grade point average for the semester.

3.27

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

133. The following grades are from the first business mathematics test in the semester. What is the class average?

Grade	Number of Students
100	2
97	3
95	4
91	1
88	2
87	2
85	3
80	5
78	3
77	2
75	4
65	2
60	3
58	4
41	1
40	1

78

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

134. Bill is paid on a graduated commission scale of 1% on his first $200,000 in sales, 2% on the next $300,000, and 4% on all additional sales in a month. What is Bill's average commission rate on monthly sales totalling $600,000?

2%

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-11 Commissions

135. A survey of 254 randomly chosen residences in a city revealed that 4 had four flat screen television sets, 22 had three sets, 83 had two sets, 140 had one set, and 5 had no flat screen TV set at all. Based on the survey, what would you estimate to be the average number of flat screen TV sets per household?

1.53

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

136. The RBC Royal Bank offers an "add-on option" on fixed-rate mortgages. The option allows the customer to borrow additional funds partway through the term of the mortgage. The interest rate charged on the combined mortgage debt becomes the weighted average of the old rate on the former balance and the current competitive rate on new mortgage financing. Suppose Herschel and Julie had a mortgage balance of $37,500 at 8%, when they borrowed another $20,000 at 7%. What interest rate will they be charged by the RBC Royal Bank on the new consolidated balance?

7.65%

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

137. Simone's grades and course credits in her first semester at college are listed below.

Grade	C+	B-	B+	C-	B	C
Credits	5	3	4	2	3	4

Using the table in Example 1.5D for converting Letter Grades to grade Point Value, calculate Simone's grade point average for the semester.

2.53

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

138. The distribution of scores obtained by 30 students on a quiz marked out of 10 is listed below.

Score	10	9	8	7	6	5	4	3	2	1
Number of Students	2	6	9	7	3	2	0	1	0	0

What was the average score on the test?

7.53

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

139. A restaurant owner set her menu prices at a defined percentage of her input costs for food, ingredients, and beverages. The prices as a percentage of these costs are 300% for appetizers, 200% for entrees, 225% for desserts, and 250% for beverages. The restaurant's revenue breaks down as follows: 10% from appetizers, 50% from entrees, 25% from beverages, and 15% from desserts. On average, what are menu prices as a percentage of the basic input costs? Overall, what are the input costs as a percentage of revenue?

226.25% of input costs; 44.20% of revenue

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

140. Suppose that, one year ago, you invested $20,000 in mutual fund A and $10,000 in mutual fund B. Which fund had the higher rate of return in the past year if the weighted average of the two rates of return exceeds the simple average? Present your reasoning.

The simple average of *two* rates of return is *midway* between the individual rates of return. The weighted average of *two* rates of return will be closer to the value with the larger weighting factor. In the given situation, the rate of return on fund A has the larger weighting factor because more money was invested in fund A than in fund B. Therefore, the weighted average rate of return will lie on A's side of the mid-point (simple average). Since the weighted average exceeds the simple average, mutual fund A had the higher rate of return.

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

141. Marcel must temporarily invest some extra funds in his retail business every fall to purchase inventory in preparation for the Christmas season. On September 1 he already had a total of $57,000 invested in his business. On October 1 he invested another $15,000, and on November 1 he injected $27,000. He was able to withdraw $23,000 on February 1, $13,000 on March 1, and $6,000 on May 1. What was the average cumulative investment in the business during the period from September 1 to August 31? (Assume that each month has the same length.)

$71,333.33

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

142. When a company calculates its earnings per common share for its financial statements, it uses the weighted-average number of common shares outstanding during the year. Suppose Enertec Corp. began its fiscal year (January 1 to December 31) with 5 million shares outstanding. On March 1, it sold a new public offering of 1 million shares. On June 1, employees and officers exercised stock options resulting in the issue of 500,000 common shares. On November 1, another 750,000 shares were issued when holders of convertible bonds chose to exercise the conversion privilege. What was the average number of common shares outstanding during the year? (Assume that each month has the same length.)

6,250,000

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

143. The fiscal year for Pine Valley Skiing Ltd., the owner of a downhill skiing facility, ends on June 30. The company began the recently completed fiscal year with its summer maintenance crew of 7. It took on 6 more employees on September 1, hired another 18 on November 1, and added 23 more on December 1. Eleven employees were laid off on March 1, 20 were let go on April 1, and another 16 departed on May 1, leaving only the permanent maintenance personnel. What was the average number of employees per month working for Pine Valley during the fiscal year? (Assume that each month has the same length.)

26.1

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

144. Ms. Yong invested $16,800 in a Canadian equity mutual fund, $25,600 in a U.S. equity mutual fund, and $31,000 in a global fund that holds a variety of foreign securities. If in the subsequent 6 months, the value of the units in the Canadian fund dropped by 4.3%, the U.S. fund declined by 1.1%, and the global fund rose by 8.2%, what was the overall rate of return on Ms. Yong's mutual fund portfolio for the 6-month holding period?

2.10%

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

145. Hillary sells cosmetics from her part-time home-based business. She receives a straight commission of 21% from her supplier. At the year-end, she also receives a 7% bonus on sales exceeding her annual quota of $50,000. What will her gross annual earnings be for a year in which her average monthly sales are $5,500?

$14,980

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

146. Your regular workweek is 7.5 hours per day for five days. If you do not work on seven public holidays and you receive two weeks' vacation, what percentage of the total hours in a year are you actually at work? Assume that a year has exactly 52 weeks.

20.9%

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-07 The Basic Percentage Problem

147. Jason's gross pay for August was $3,296.97 on sales totalling $151,342. If his base salary is $1,500 per month, what is his rate of commission on sales exceeding his monthly quota of $100,000?

3.50%

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

148. Trevor earns a base monthly salary of $2,000 plus a commission of 3% on sales exceeding his monthly quota of $25,000. He receives a further 3% bonus on sales in excess of $50,000. What must his sales be in order to gross $4,000 per month?

$70,833.33

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

149. Monica's net pay is 81% of her gross pay. Her net pay for two weeks is $1069.20. What is her gross pay for two weeks?

$1,320.00

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

150. Jason earns $17.00 per hour for a forty-hour week. His overtime rate is 1 ½ times any hours exceeding forty in a week. What will Sam's gross earnings be for a week if he works 42.5 hours?

$743.75

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

151. Larissa works in a retail store in Square One in Mississauga. She earns a base salary of $320 per week, and a commission of 3% on sales over her quota of $5,000. How much will Larissa earn if her sales for the week are: a) $4500? b) $8500?

$320; $425

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

152. Cliff is a sales manager for a convention centre. He is paid on a graduated commission scale of 0.5% on the first $200,000, 0.7% on the next $300,000, and 0.8% on all additional sales for the month. What are Cliff's gross earnings in a month in which he sells: a) $400,000? b) $700,000?

$2,400; $4,700

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

153. Mrs. Simone invested $10,000 at 5%, $15,000 at 4%, and $20,000 at 3%. Calculate Mrs. Simone's overall rate of return.

3.78%

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-14 Weighted Average

154. Kristina is a sales representative for a pharmaceutical company. She is paid the greater of $3,500 per month or 5% of sales. a) What are her earnings for the month if her sales are $60,000? $78,000? b) At what volume of sales per month will she start to earn more from the commission-based compensation?

a) $3,500; $3,900; b) $3,500

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

155. Marilyn's gross pay last month was $3,300.00. Her base salary is $3,000 per month, plus a commission of 2% on sales over $60,000. What were Marilyn's sales for last month?

$75,000

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

156. Julio is paid on a graduated commission scale of 5% on the first $20,000 of sales in a month, 7.5% on the next $20,000, and 10% on all additional sales. a) What will he be paid for a month in which his sales are $54,880? b) What single commission rate on all sales would result in the same earnings for the month?

a) $3,988.00 and b) 7.2668%

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

157. What percent of $1150 is $1495?

130%

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

158. Through a calculation (on Canadian Individual Tax Returns) known as the "Old Age Security clawback," an individual receiving Old Age Security (OAS) benefits must repay an increasing proportion of these benefits to the federal government as the individual's net income rises beyond a certain threshold. If the OAS clawback is 15% of net income exceeding $64,000, at what amount of net income must a taxpayer repay all $5,900 of OAS benefits received in the year?

$103,333.33

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-15 Taxes

159. A full-service broker charges a commission rate of 2.2% of the total dollar value of a stock transaction. A discount broker charges a transaction fee of $25 plus an additional five cents per share. Suppose you purchase 800 shares of Talisman Energy at $21.75 per share. What percentage of the commission fee charged by the full-service broker would you save by using the discount broker?

83.0%

Difficulty: Difficult
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

160. A province's progressive income tax rates are structured as follows: 6.02% tax on the first $35,000 of taxable income, 11.15% on the next $35,000, 13.25% on the next $400,000, and 12.65% on any additional taxable income. What percentage is an individual's total income tax of his (taxable) income if his taxable income for a year is:

a) $33,000?
b) $66,000?
c) $99,000?

a. 6.02%; b. 8.43%; c. 9.95 %

Difficulty: Difficult
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-15 Taxes

161. A province's progressive income tax rates are structured as follows: 6.70% tax on the first $35,000 of taxable income, 12.55% on the next $35,000, 13.75% on the next $400,000, and 14.65% on any additional taxable income. How much tax did a person pay earning an income for a year of $375,899.00?

$48,798.61

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-15 Taxes

162. In 2016, Canada's population was 34,100,000 and Japan's population was 127,400,000. Canada's land area is 9,093,500 square kilometres but Japan's area is only 377,835 square kilometres. To the nearest 0.01%, what percentage was Canada's population density (people per square kilometre) of Japan's population density in 2016?

1.11% of Japan's population density

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

163. Barbara's annual salary of $58,800 is paid weekly. She is paid at time and a half for any overtime beyond her regular workweek of 35 hours. What is her gross pay for a week in which she works 39 hours?

$1130.77

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

164. Ross's compensation is to be changed from an hourly rate of $15.75 for a 40-hour week to a salary paid semimonthly. What should he be paid semimonthly in order for his annual earnings to remain the same?

$1,365.00

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

165. Melanie's regular hourly rate of pay is $17.70. She is paid time and a half for all work on weekends and for any time over 8.5 hours on weekdays. Calculate her gross earnings for a week in which she works 4.5, 0, 7, 8.5, 5, 6, and 9 hours on Saturday to Friday, respectively.

$716.85

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

166. Breanne sews for a clothing manufacturer. She is paid $7.50 per hour plus a piece rate that depends on the type of garment in production. The current production run is men's shirts, for which she is paid $3.00 for each unit exceeding her quota of 20 shirts in an 8-hour shift. What will be her total pay for a regular workweek in which her output on successive days was 24, 26, 27, 28, and 30 shirts?

$405.00

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

167. 30 m is what percent of 3 km accurate to three significant figures?

1.00%

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

168. 500 grams is what percent of 2.8 kilograms accurate to three significant figures?

17.9%

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

169. Jo-Anne and Kevin estimate their total cost for a vacation in Ireland to be $9850.

a) What percentage is this cost of their combined gross monthly income of $5850?
b) If 72% of their gross monthly income is already consumed by rent, taxes, car payments, and other regular living expenses, what percentage is the trip's cost of their remaining annual disposable income?

a. 168% b. 50.1%

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

170. A provincial Minister of Education recently announced that his government's forecast expenditure of $32.4 billion on education next year represents 23.5% of the provincial budget. Rounded to the nearest million dollars, what is the province's total budget for the next year?

$138 billion

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

171. Unusually high snowfall in January caused the City of Calgary to exceed its January snow removal budget. In January, the city spent $32 million dollars, which represents 129.4% of its snow removal budget for the month. Rounded to the nearest $100,000, what amount did Calgary budget for January's snow clearance?

$24.7 million(to the nearest hundred thousand)

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

172. The Royal Canadian Mint sells one troy ounce (31.16 grams) platinum collector coins of 99.95% purity. How many milligrams of impurities are in a single coin?

15.58 mg

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

173. Ivory hand-soap is advertised as being
$99\frac{44}{100}\%$
pure. (It floats!) How many milligrams of impurities are in a 150-gram bar of Ivory soap?

840 mg

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

174. The Calgary Flames hockey team announced that its season's ticket sales of 11,542 represents 67.50% of the Saddledome's seating capacity. Rounded to the nearest 100, how many seats were not sold to season's ticket holders?

5,600 (rounded to the nearest 100)

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

175. Stan is a real estate salesperson. He receives 60% of the 4.8% commission that the real estate agency charges on sales. If his income for the past year was $150,480, what was his dollar volume of sales for the year?

$5,225,000

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-11 Commissions

176. In July, Canada's exports to the United States were $33.2 billion dollars, which were 98% of June's exports to the United States. Rounded to the nearest $0.1 billion, what was the value of Canada's exports to the United States in June.

$33.9 billion dollars

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

177. What is the percent *Rate* if a quantity is four times the size of the *Base*?

400%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

178. What is the percent *Rate* if a quantity is
$\frac{1}{1000}$
of the *Base*?

0.1%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

179. If the percent *Rate* is 1,000%, what multiple is the *Portion* of the *Base*?

10 times

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

180. If the percent *Rate* is 0.01%, what fraction is the *Portion* of the *Base*?

1/10,000

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

181. Calculate 1.75% of $350 accurate to the cent.

$6.13

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

182. $1.34 is what percent of $655 accurate to three significant figures?

0.205%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

183. What amount is 233.3% of $75 accurate to the cent?

$174.98

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

184. $0.58\overline{3}\%$
of $1500 is what amount accurate to the cent?

$8.75

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

185. 7½% of what amount is $1.46 accurate to the cent?

$19.47

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

186. What percent of $590 is $950 accurate to three significant figures?

161%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

187. 95% of what amount is $100 accurate to the cent?

$105.26

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

188. How much is ½% of $10 accurate to the cent?

$0.05

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

189. $180 is 120% of what amount accurate to the cent?

$150.00

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

190. 0.0505% of $50,000 is what amount accurate to the cent?

$25.25

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

191. $281.25 is 225% of what amount accurate to the cent?

$125.00

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

192. Calculate 0.54% of $200.

$1.08

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

193. $75 is 20% of what amount?

16

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

194. ¾% of what amount is $1.00?

$133.33

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

195. Fifteen minutes is what percentage of 2 hours?

12.5%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

196. Give three examples of values which have only two or three digits but nevertheless are known with perfect accuracy.

number of months in a year, number of payments in a year, number of children in a family

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

197. If a time period of approximately five years is to be calculated to the nearest month, how many figures must be retained in the numbers used in the calculations?

three figures

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

198. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$\frac{65}{104}$$

0.625 = 62.500%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

199. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$\frac{1000}{25}$$

40 = 4,000.0%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

200. The following mixed number has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$2\frac{2}{100}$$

2.02 = 202.00%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

201. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$\frac{37.5}{50}$$

.75 = 75.000%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

202. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$\frac{22.5}{-12}$$

-1.875 = -187.5%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

203. The following mixed number has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$$7\frac{7}{9}$$

$$7.\overline{7} = 777.\overline{7}\%$$

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

204. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$\frac{10}{9}$

1.$\overline{1}$ = 111.$\overline{1}$ %

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

205. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$\frac{-4}{900}$

-0.00$\overline{4}$ = -0.$\overline{4}$ %

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

206. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$$-\frac{7}{270}$$

-0.0$\overline{259}$
= -2.$\overline{259}$
%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

207. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$$\frac{1}{6}$$

0.16667 = 16.667%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

208. Convert the following mixed number to its decimal equivalent and percent equivalent values, rounded to five figures:

$$2\frac{5}{9}$$

2.5556 = 255.56%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

209. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$$\frac{250}{365}$$

0.68493 = 68.493%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

210. Convert the following to its decimal and percent equivalents.

$$2\frac{2}{5}$$

2.4 = 240%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

211. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$$\frac{0.11}{12}$$

0.0091667 = 0.91667%

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

212. Convert the following to its decimal and percent equivalents.

$$\frac{0.050}{4}$$

0.0125 = 1.25%

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

213. Evaluate the following accurate to the nearest cent:

$$\frac{\$780\left(1+\frac{0.0825}{2}\right)^{5}}{\left(1+\frac{0.10}{12}\right)^{8}}$$

$893.38

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-06 Evaluating Complex Fractions

214. Evaluate:

$$\$500\left[\frac{(1+0.04)^{6}-1}{0.04}\right]$$

$3,316.49

Difficulty: Moderate
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-01 Order of Operations

215. Evaluate:

$$\frac{\$80\left[1-\frac{1}{(1+\frac{0.03}{2})^4}\right]}{\frac{0.03}{2}}+\frac{1000}{(1+\frac{0.03}{2})^4}$$

$1,250.54

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

216. Evaluate the following accurate to the nearest cent:

$$\frac{\$350}{\frac{0.0975}{12}}\left[1-\frac{1}{\left(1+\frac{0.0975}{12}\right)^5}\right]$$

$1,708.14

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

217. Evaluate the following accurate to the nearest cent:

$$\frac{\$9500}{\frac{\left(1+\frac{0.075}{4}\right)^5-1}{\frac{0.075}{4}}}$$

$1,830.07

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

218. Evaluate the following accurate to the nearest cent:

$$\$45\frac{\left[1-\frac{1}{\left(1+\frac{0.0837}{2}\right)^4}\right]}{\frac{0.0837}{2}}+\frac{\$1000}{\left(1+\frac{0.0837}{2}\right)^4}$$

$1,011.38

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

219. Evaluate the following:

$$\frac{\$827.69}{1+0.125\times\frac{273}{365}}+\$531.49\left(1+0.125\times\frac{41}{365}\right)$$

$1295.88

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

220. Evaluate the answer correct to the cent: 160 - 2[-4 ´32 + 125 ¸52 + 8(4 - (- 3)]

110

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

221. Evaluate the answer correct to the cent.

$$\frac{28-2[4^2-(-4)+4]}{5}+6\left(\frac{2\times 3^2}{8}\right)$$

-6.50

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

222. Evaluate the answer correct to the cent.

$$\frac{28-2(3+2^2-2)}{6}+3\left(\frac{3\times 6^2}{4}\right)$$

84

Difficulty: Difficult
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

223. Evaluate the answer correct to the cent:
$\$200\left(1+0.075\times\frac{75}{365}\right)$

$44.18

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

224. Evaluate the following:

$$\$859\left(1+\frac{0.0825}{12}\right)^3+\frac{\$682}{\left(1+\frac{0.0825}{12}\right)^2}$$

$1,549.56

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

225. Evaluate the following: $[4(2 \times 3^2 - 2^3) \div (10 - 4 \times 5)]$

-40

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

226. Evaluate the following:

$$\$885.75\left(1+0.0775\times\frac{231}{365}\right)-\frac{\$476.50}{1+0.0775\times\frac{49}{365}}$$

$457.60

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

227. Evaluate the answer correct to the cent:

$$\$250\left(1+0.05\times\frac{145}{365}\right)$$

$254.97

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

228. Evaluate the answer correct to the cent:

$$\frac{\$2500}{1+0.06\times\frac{8}{12}}$$

$2,403.85

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

229. Evaluate the answer correct to the cent:

$$\frac{\$5000}{(1+0.04)^2}$$

$4,622.78

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

230. Evaluate the answer correct to the cent: $\$700\ (1 + 0.05)^3$

$810.34

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

231. Evaluate the answer correct to the cent:

$$\$1100\left(\frac{(1+0.05)^2-1}{0.05}\right)$$

$2,255

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

232. Evaluate the answer correct to the cent:

$$\$3000\left(1+0.04\times\frac{285}{365}\right)$$

$3,093.70

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

233. Evaluate the answer correct to the cent:

$$\frac{\$750}{1+0.04\times\frac{5}{12}}$$

$737.70

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

234. Evaluate the answer correct to the cent:

$$\frac{\$1000}{(1+0.05)^2}$$

$907.03

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

235. Evaluate the answer correct to the cent: $\$1700(1 + 0.04)^3$

$1,912.27

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

236. Evaluate the answer correct to the cent:

$$\$6000\left(\frac{(1+0.045)^2-1}{0.045}\right)$$

$12,270

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

237. Evaluate the answer correct to the cent:

$$\frac{\$500}{(1+0.05)^2}$$

$453.51

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

238. Evaluate the answer correct to the cent: $\$1000(1 + 0.02)^3$

$1,061.21

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

239. Evaluate the answer correct to the cent:

$$\$100\left(\frac{(1+0.04)^2-1}{0.04}\right)$$

$204.00

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

240. Evaluate the following: $12 + 3\ [2 + (4^2 - 13)^2]^2$

375

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

241. Evaluate the following: $5 - (2 - 4)^2 + 2^3 - 4^2$

-7

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

242. Evaluate the answer correct to the cent: $(-3)\ (-4) - 7 - 5^2$

-20

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

243. Evaluate the answer correct to the cent: $6^2 - 4(2) + 8$

36

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

244. Evaluate the answer correct to the cent: $(3 \prime 4 - 2)^2 + (2 - 2 \prime 7^2)$

4

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

245. Evaluate the following accurate to the nearest cent:

$$\$100\left(1+0.11\times\frac{5}{12}\right)$$

$104.58

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

246. Evaluate the following accurate to the nearest cent:

$$\$950.75\left(1-\frac{0.095}{4}\right)^2$$

$996.45

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

247. Evaluate the answer .: 20 - 4 ´ 2 - 8

4

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

248. Evaluate the answer .: 18 ¸ 3 + 6 ´ 2

18

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

249. Evaluate the answer .: (20 - 4) ´ 2 - 8

24

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

250. Evaluate the answer .: 18 ¸ (3 + 6) ´ 2

4

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

251. Evaluate the answer .: 20 - (4 ´ 2 - 8)

20

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

252. Evaluate the answer .: (18 ¸ 3 + 6) ´ 2

24

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

253. Evaluate the answer .: 54 - 36 ¸ 4 + 2^2

49

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

254. Evaluate the answer .: $(5 + 3)^2 - 32 \div 9 + 3$

66

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

255. Evaluate the answer to one decimal place : $(54 - 36) \div (4 + 2)^2$

0.5

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

256. Evaluate the answer .: $5 + (32 - 3)^2 \div (9 + 3)$

8

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

257. Evaluate the answer .:

$$\frac{8^2 - 4^2}{(4 - 2)^3}$$

6

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

258. Evaluate the following: $81 \div (5^2 - 16) - 4(2^3 - 13)$

29

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

259. Evaluate the following: $(2^3 - 3)^2 - 20 \div (2 + 2^3$

23

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

260. Evaluate the following:

$$\$213.85\left(1 - 0.095 \times \frac{5}{12}\right)$$

$205.39

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

261. Evaluate the following:

$$\frac{\$2315}{1 + 0.0825 \times \frac{77}{365}}$$

$2,275.40

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

262. Evaluate the following:

$$\$325.75\left(1 + \frac{0.105}{4}\right)^2$$

$343.08

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

263. Evaluate the following:

$$\frac{\$710}{\left(1+\frac{0.0925}{2}\right)^3}$$

$619.94

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

264. Evaluate the following accurate to the nearest cent:

$$\$92\left(1+0.095\times\frac{112}{365}\right)$$

$94.68

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

265. Evaluate the following accurate to the nearest cent:

$$\$454.76\left(1-0.105\times\frac{11}{12}\right)$$

$410.99

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

266. Evaluate the following accurate to the nearest cent:

$$\frac{\$790.84}{1+0.13\times\frac{311}{365}}$$

$711.98

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

267. Evaluate the following accurate to the nearest cent:

$$\frac{\$3490}{1+0.125\times\frac{91}{365}}$$

$3384.52

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

268. Evaluate the following accurate to the nearest cent:

$$\frac{\$10,000}{1-0.10\times\frac{182}{365}}$$

$10,524.80

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

269. Evaluate the following accurate to the nearest cent:

$$\$650\left(1+\frac{0.105}{2}\right)^2$$

$720.04

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

270. Evaluate the following accurate to the nearest cent:

$$\frac{\$15{,}400}{\left(1+\frac{0.13}{12}\right)^{6}}$$

$14,435.88

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

271. Evaluate the following accurate to the nearest cent:

$$\frac{\$550}{\left(1+\frac{0.115}{2}\right)^{4}}$$

$439.79

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

272. Evaluate the following accurate to the nearest cent:

$$\frac{\$6600\left(1+0.085\times\frac{153}{365}\right)}{1+0.125\times\frac{82}{365}}$$

$6648.46

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

273. Evaluate the following accurate to the nearest cent:

$$\$1000\left[\frac{\left(1+\frac{0.09}{12}\right)^{7}-1}{\frac{0.09}{12}}\right]$$

$7,159.48

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-06 Evaluating Complex Fractions

274. Calculate
$6.\overline{6}\%$
of $666.66 accurate to the cent.

$44.44

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

275. Evaluate the answer .: $3(6 + 4)^2 - 5(17 - 20)^2$

255

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

276. Evaluate the answer correct to one decimal place: $(4 \times 3 - 2)^2 \div (4 - 3 \times 2^2)$

-12.5

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

277. Evaluate the answer .: [(20 + 8 ´ 5) - 7 ´ (- 3)] , 9

9

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

278. Evaluate the answer.: (-1) (-3) + 7 - 6^2:

-26

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

279. Evaluate the answer .: $5[19 + (5^2 - 16)^2]^2$

50,000

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

280. Evaluate the answer correct to the cent:

$$\$100\left(1+0.06\times\frac{45}{365}\right)$$

$100.74

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

281. Evaluate the answer correct to the cent:

$$\frac{\$200}{1+0.09\times\frac{4}{12}}$$

$194.17

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

282. Evaluate the following to the correct cent:

$$\$550.45\left(1+0.0875\times\frac{195}{365}\right)-\frac{\$376.29}{1+0.0875\times\frac{99}{365}}$$

$208.62

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

283. Evaluate the following to the correct cent:

$$\$1137\left(1+\frac{0.0975}{12}\right)^2+\frac{\$2643}{\left(1+\frac{0.0975}{12}\right)^3}$$

$3,735.16

Difficulty: Moderate
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

284. Evaluate the answer .: 180 - 2[(-3 ´ 23 + 128 ¸42) + 6(-3+ 7)]

164

Difficulty: Moderate
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

285. Evaluate the answer correct to the cent:

$$\$300\left[\frac{1-\frac{1}{(1+0.03)^2}}{0.03}\right]$$

$574.04

Difficulty: Difficult
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-06 Evaluating Complex Fractions

286. If you want four-figure accuracy in your answer, what minimum number of figures must be retained in the values used in the calculations?

five figures

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

287. For a final result of approximately $7,000 to be accurate to the cent, what minimum number of figures must be maintained in the values used in the calculations?

seven figures

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

288. If a final result of the order of five million dollars is to be accurate to the nearest dollar, how many figures must be maintained in the calculations?

eight figures

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

289. If an interest rate (which could be greater than 10%) is to be calculated to the nearest 0.01%, what minimum number of digits must be retained in the numbers used to calculate the interest rate?

five figures

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

290. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$\frac{7}{8}$

0.875 = 87.500%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

291. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$\frac{47}{20}$

2.35 = 235.00%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

292. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$-\frac{9}{16}$$

-0.5625 = -56.25%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

293. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$\frac{-35}{25}$$

-1.4 = -140.00%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

294. The following mixed number has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$$1\frac{7}{25}$$

1.28 = 128.00%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

295. The following fraction has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$\frac{25}{1000}$

0.025 = 2.5000%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

296. The following mixed number has a *terminating* decimal equivalent form. Express its decimal and percent equivalent forms to five-figure accuracy:

$-1\frac{11}{32}$

-1.34375 = -134.38%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

297. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$\frac{5}{6}$

$0.8\overline{3} = 83.\overline{3}\%$

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

298. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$$-\frac{8}{3}$$

-2.$\overline{6}$ = -266.$\overline{6}$ %

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

299. The following mixed number has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$$1\frac{1}{11}$$

1.$\overline{09}$ = 109.$\overline{09}$ %

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

300. The following fraction has a *repeating* decimal equivalent form. Express the decimal and percent equivalent form in the repeating decimal notation. Show just the minimum number of decimal places needed to display the repeating digit or group of digits.

$\frac{37}{27}$

1.

$\overline{370}$

= 137.

$\overline{037}$

%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Topic: 01-04 Decimal and Percent Equivalents

301. Round the following to four-figure accuracy: 11.3845

11.38

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

302. Round the following to four-figure accuracy: 9.6455

9.646

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

303. Round the following to four-figure accuracy: 0.5545454

0.5545

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

304. Round the following to four-figure accuracy: 1,000.49

1,000

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

305. Round the following to four-figure accuracy: 1.0023456

1.002

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

306. Round the following to four-figure accuracy: 0.030405

0.03041

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

307. Round the following to four-figure accuracy: 40.09515

40.10

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

308. Round the following to four-figure accuracy: 0.0090909

0.009091

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-05 Rounding of Decimal and Percent Equivalents

309. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$\frac{7}{6}$

1.1667 = 116.67%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

310. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$\frac{1}{60}$

0.016667 = 1.6667%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

311. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$\frac{15}{365}$

0.041096 = 4.1096%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

312. Convert the following fraction to its decimal equivalent and percent equivalent values, rounded to five figures:

$$\frac{0.095}{12}$$

0.0079167 = 0.79167%

Difficulty: Easy
Learning Objective: 01-02 Convert fractions to their percent and decimal equivalents.
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Topic: 01-04 Decimal and Percent Equivalents
Topic: 01-05 Rounding of Decimal and Percent Equivalents

313. What percent is $1.50 of $11.50 accurate to three significant figures?

13.0%

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

314. What percent is 88¢ of $44 accurate to three significant figures?

2.00%

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

315. $45 is 60% of what amount accurate to the cent?

$75.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

316. $69 is 30% of what amount accurate to the cent?

$230.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

317. What amount is 0.075% of $1650 accurate to the cent?

$1.24

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

318. $134 is what percent of $67 accurate to three significant figures?

200%

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

319. 150% of $60 is what amount accurate to the cent?

$90.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

320. 12¾% of what amount is $27.50 accurate to the cent?

$215.69

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

321. What percent of $950 is $590 accurate to three significant figures?

62.1%

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

322. 8⅓% of what amount is $10 accurate to the cent?

$120.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

323. 0.75% of $100 is what amount accurate to the cent?

$0.75

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

324. $559.35 is 113% of what amount accurate to the cent?

$495.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

325. 130½% of $455 is what amount accurate to the cent?

$593.78

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

326. 350% of what amount is $1,000 accurate to the cent?

$285.71

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

327. $10 is 0.5% of what amount accurate to the cent?

$2,000.00

Difficulty: Easy
Learning Objective: 01-03 Maintain the proper number of digits in calculations.
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-05 Rounding of Decimal and Percent Equivalents
Topic: 01-07 The Basic Percentage Problem

328. What percent of $6.39 is $16.39?

256.5%

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

329. 80% of what amount is $100?

$125.00

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

330. The actual profit of $23,400 for the most recent fiscal quarter was 90% of the forecast profit. What was the forecast profit?

$26,000.00

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

331. 167.5% of what amount is $100?

$59.70

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

332. Renalda sold Westel stock that she purchased at $2.20 per share one year ago for 135% of the original price. At what price did she sell the stock?

$2.97 per share

Difficulty: Easy
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

333. $1.25 is ¾% of what amount accurate to the cent?

$166.67

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

334. In a one-month period, a convenience store had sales of $65,560 from its gas pumps and sales of $36,740 from other in-store products. What percent of total sales were from gasoline?

64.1% of total sales

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

335. In a basketball game, the Langara College Falcons scored
$54.\overline{54}$
% of 33 shots from the 2-point zone,
$46.\overline{6}$
% of 15 attempts from the 3-point distance, and 79.3% of 29 foul shots (1 point each). How many points did the Falcons score?

80

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

336. The royalty rate performing artists receive from songs downloaded from Apple iTunes is 5.7%. If a band received royalties from Apple of $99,736.41 for a year, how many song downloads at $0.99 each did the band have for that year?

$1,767,436

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

337. An online discount broker charges a transaction fee of $30 plus an additional 3 cents per share. A full-service broker charges a commission rate of 2.4% of the total dollar value of a stock transaction. Suppose you purchase 200 shares of the Bank of Nova Scotia at $55.40 per share. What percentage are the total fees charged by the online discount broker of the commission you would pay the full-service broker?

13.5%

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

338. A property sold for 250% of what the vendors originally paid for it. What was that original price if the recent selling price was $210,000?

$84,000

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

339. A stockbroker is paid 45% of the commission her firm charges her clients. If she personally received $134.55 on a $11,500 transaction, what is the firm's commission rate?

2.60%

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

340. In March, Canada's exports to the United States were $29.5 billion dollars, which were 104% of February's exports to the United States. Rounded to the nearest $0.1 billion, what was the value of Canada's exports to the United States in February?

$28.4 billion dollars

Difficulty: Moderate
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

341. The maximum amount an individual can contribute to his or her Registered Retirement Savings Plan (RRSP) for a year is set from time to time by the Regulations of the Income Tax Act. For the year 2016, the maximum contribution was the lesser of $23,820 or 18% of the individual's "earned income" during 2015. What was the lowest amount of earned income for 2015 at which an individual could make a full $23,820 contribution in 2016? (Round to the nearest dollar.)

$132,333

Difficulty: Difficult
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

342. A mortality rate indicates the fraction of individuals in a population who are expected to die in the next year. If the mortality rate among 35-year-old males is 0.34%, what is the expected number of deaths per year among a province's total of 50,000 such males? If 35-year-old males constitute 0.83% of the overall population in a city of 1.45 million, how many deaths of such males are expected in that city in a year?

170 and 41

Difficulty: Difficult
Learning Objective: 01-04 Given any two of the three quantities percent rate, portion, and base, solve for the third.
Topic: 01-07 The Basic Percentage Problem

343. Lucille receives an annual salary of $37,500 based on a 37.5-hour workweek. What are her gross earnings for a two-week pay period in which she works 9 hours of overtime at 1½ times her regular rate of pay?

$1701.92

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

344. Hasad is paid an annual salary of $54,600 based on a 40-hour workweek. What is his gross pay for a biweekly pay period if he works 43 hours in the first week and 46.5 hours in the second week? Overtime is paid at time and a half.

$2,474.06

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

345. Sam is paid $34.50 per hour as a power plant engineer. He is paid 1½ times the regular rate for all time exceeding 8 hours in a day or 40 hours in a week. Statutory holidays worked are paid at double time (in addition to holiday pay). What were his gross earnings for a week in which he clocked 8, 9.5, 8, 8, 10, 0, and 8 hours on Saturday to Friday, respectively, where Monday was a statutory holiday?

$2,389.13

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-10 Hourly Wages

346. Herb packs fish in 500-g cans on a processing line. He is paid $8.25 per hour plus $0.18 per kilogram for production in excess of 500 kg in a 7.5-hour shift. How much will he earn per day if he packs 250 cans per hour?

$140.63

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-10 Hourly Wages

347. Svetlana is an independent insurance broker placing various clients with any of several insurance companies. On homeowner insurance policies, each month she receives: (i) $20 for each renewal of an existing policy, (ii) $35 per policy placed with a new client, and (iii) 5.5% of the annual premiums on all insurance policies (both new and renewals) written in the month. In October, she placed 37 new-client policies representing $14,375 in annual premiums and 126 policy renewals representing $47,880 in annual premiums. What amount did Svetlana earn in October?

$7,239.03

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-08 Payroll

348. Manfred is considering job offers of the same type of sales position from two retailers with similar product lines. Supreme Audio & Video is offering a base salary of $2,000 per month plus a 4% commission rate on sales. Buy-Right Electronics will pay him a base salary of $1,500 per month plus commission rates of 3% on the first $25,000 of sales and 6% on additional sales in a month. Based on past experience in sales positions, Manfred is confident he can attain average monthly sales of $55,000. At this level of sales, what would be his average gross earnings per month from each retailer?

$4,200 & $4,050

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

349. A shoe salesman is paid the greater of $600 per week or 11% of sales. a) What will be his earnings for a week in which sales are $5636? b) At what volume of sales per week will he start to earn more from the commission based compensation?

a) $619.96 and b) $5454.55 per week

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

350. Tom sells mutual funds on a graduated commission structure. He receives 3.3% on the first $50,000 of sales in a month, 4.4% on the next $50,000, and 5.5% on all further sales. What are his gross earnings for a month in which he sells $140,000 worth of mutual funds?

$6,050.00

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

351. Sharon is a manufacturer's representative selling office furniture directly to businesses. She receives a monthly salary of $2,000 plus a 2.2% commission on sales exceeding her quota of $150,000 per month. a) What are her earnings for a month in which she has $227,000 in sales? b) If her average monthly sales are $235,000, what straight commission rate would generate the same average monthly earnings as her current basis of remuneration?

a) $3,694.00 and b) 1.6468%

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

352. Karen works in a retail computer store. She receives a weekly base salary of $300 plus a commission of 3% of sales exceeding her quota of $20,000 per week. What were her sales for a week in which she earned $630.38?

$31,012.67

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

353. Daniella's gross monthly earnings are based on commission rates of 4% of the first $40,000 of sales, 5% of the next $50,000, and 6% of all additional sales for the month. What was her sales total for a month in which she earns $5,350?

$110,833.33

Difficulty: Difficult
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

354. An investor accumulated 1800 shares of Microtel Corporation over a period of several months. She bought 1,000 shares at $15.63, 500 shares at $19.00, and 300 shares at $21.75. What was her average cost per share? (*Note*: Investors who purchase shares in the same company at more than one price must eventually do this calculation. Tax rules require that the capital gain or loss on the sale of any of the shares be calculated using the weighted-average price paid for all of the shares rather than the particular price paid for the shares actually sold.)

$17.59

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

355. A hockey goalie's "goals against average" (GAA) is the average number of goals scored against him per (complete) game. In his first 20 games in goal, O. U. Sieve had one shutout, two 1-goal games, three 2-goal games, four 3-goal games, seven 4-goal games, two 6-goal games, and one 10-goal disaster. Calculate his GAA.

3.50

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

356. Serge's graduated commission scale pays him 3% on his first $30,000 in sales, 4% on the next $20,000, and 6% on all additional sales in a month. What will be his average commission rate on sales for a month totalling a) $60,000, b) $100,000?

a) 3.83% and b) 4.70%

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

357. Alihan's transcript shows the following academic record for four semesters of part-time college studies. Calculate his cumulative GPA at the end of his fourth semester.

Semester	Credits	GPA
I	6	3.5
II	9	3.0
III	12	2.75
IV	7.5	3.2

3.04

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

358. Havel signed a listing agreement with a realtor. The commission rate is 4% on the first $200,000 of the selling price, and 2.5% on the remainder. a) What commission will Havel pay if he sells his home for $289,000? b) What is the average commission rate on the selling price?

a) $10,225.00 and b) 3.54%

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

359. Luther is paid an annual salary of $56,600 based on a 37½-hour workweek. a) What is his equivalent hourly wage? (Assume that a year has exactly 52 weeks). b) What would be his total remuneration for a bi-weekly pay period of that year if he worked 4.5 hours of overtime at time and a half?

a) $29.03 and b) $2372.85

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

360. Anthony began the year with $96,400 already invested in his Snow 'n Ice retail store. He withdrew $14,200 on March 1 and another $21,800 on April 1. On August 1, he invested $23,700, and on November 1 he contributed another $19,300. What was his average cumulative investment during the year? (Assume that each month has the same length.)

$81,308.33

Difficulty: Easy
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

361. Istvan earns an annual salary of $61,000 as an executive with a provincial utility. He is paid biweekly. During a strike, he worked 33 hours more than the regular 75 hours for a two-week pay period. What was his gross pay for that period if the company agreed to pay 1.5 times his equivalent hourly rate for overtime? (Assume that a year has exactly 52 weeks.)

$3,894.61

Difficulty: Easy
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-09 Salaries

362. Sonja is paid $42.50 per hour as a veterinarian. She is paid 1½ times the regular rate for all time exceeding 7½ hours in a day or 37½ hours per week. Work on a statutory holiday is paid at double time. What were her gross earnings for a week in which she worked 6, 0, 3, 7½, 9, 7½, and 8 hours on Saturday to Friday, respectively, and the Monday was a statutory holiday?

$2,231.25

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-10 Hourly Wages

363. An account receivable is an outstanding debt owed to a business by a customer. The "age" of an account receivable is the length of time that it has been outstanding. At the end of October, a firm has $12,570 in receivables that are 30 days "old," $6,850 that are 60 days "old," and $1,325 that are 90 days "old." What is the average "age" of its accounts receivable at the end of October?

43.74 days

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

364. In what circumstance should you calculate a weighted average instead of a simple average?

You should calculate a weighted average when some of the values being averaged are more important or occur more frequently than other values.

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

365. In what circumstances will the weighted average be equal to the simple average?

The weighted average will equal the simple average when the items being averaged all have the same weighting factor. In other words, each of the values being averaged has the same importance, or occurs the same number of times.

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

366. How must you allocate your money among a number of investments so that your portfolio's overall rate of return will be the same as the simple average of the rates of return on individual investments?

If you invest the same amount of money in each investment, each rate of return has the same importance. The portfolio's rate of return will then equal the simple average of the individual rates of return.

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

367. One year ago, Ming allocated the funds in her portfolio among five securities in the proportions listed below. The rate of (total) return on each security for the year is given in the third column of the table.

Security	Portion invested	Rate of Return for the year
Company A Shares	15%	4%
Province A Bonds	20	2
Company C Shares	10	-11
Units in Fund D	35	4
Company E Shares	20	7

Calculate the rate of return for the entire portfolio.

2.7%

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

368. One of the methods permitted by Generally Accepted Accounting Principles for reporting the value of a firm's inventory is *weighted-average inventory pricing*. The Boswell Corporation began its fiscal year with an inventory of 156 units valued at $10.55 per unit. During the year it made the purchases listed in the following table.

Date	Units Purchased	Unit Cost
February 10	300	$10.86
June 3	1,000	10.47
August 23	500	10.97

At the end of the year, 239 units remained in inventory. Determine: a) The weighted-average cost of the units purchased during the year. b) The weighted-average cost of the beginning inventory and all units purchased during the year. c) The value of the ending inventory based on the weighted-average cost calculated in b.

a) $10.67 and b) $10.66 and c) $2,547.74

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

369. Suppose a group of consumers spends 30% of its disposable income on food, 20% on clothing, and 50% on rent. If over the course of a year the price of food rose 10%, the price of clothing dropped 5%, and rent rose 15%, what was the average price increase experienced by these consumers?

9.50%

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

370. Marion receives a monthly base salary of $1,000. On the first $10,000 of sales above her monthly quota of $20,000, she is paid a commission of 8%. On any additional sales, the commission rate is 10%. What were her gross earnings for the month of August, in which she had sales amounting to $38,670?

$2,667

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

371. The balance on Nucorp's revolving loan began the month at $35,000. On the eighth of the month another $10,000 was borrowed. Nucorp was able to repay $20,000 on the 25th of the 31-day month. What was the average balance on the loan during the month? (Use each day's closing balance as the loan balance for the day.)

$38,225.81

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

372. A seasonal manufacturing operation began the calendar year with 14 employees. It added seven on April 1, eight on May 1, and eleven more on June 1. Six were laid off on September 1 and another 14 were let go on October 1. What was the average number of employees on the payroll during the calendar year? (Assume that each month has the same length.)

25.5

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

373. Lien, the proprietor of a grocery store, prepares her Deluxe Nut Combo by mixing various ingredients she buys in bulk. Her recipe calls for 5 kg of peanuts, 2 kg of cashews, 1 kg of almonds, 500 g of sunflower seeds, 400 g of raisins, and 300 g of Smarties. In order to set the retail price at 150% of her cost, Lien must determine her cost based on the average wholesale price of the ingredients. These prices are $2.95/kg for peanuts, $9.50/kg for cashews, $11.50/kg for almonds, $2.75/kg for sunflower seeds, $3.60/kg for raisins, and $6.40/kg for Smarties.

a) What is Lien's average cost per 100 g of her Deluxe Nut Combo?
b) What is her retail price per 100 g?

a) $0.543 per 100g b) $0.81 per 100g

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-14 Weighted Average

374. Preston bought gasoline for his truck four times last month. He bought 74 litres at $1.25 per litre, 45 litres at $1.32 per litre, 88 litres at $1.28 per litre, and 20 litres at $1.39 per litre.

a. What simple average price per litre did Preston pay for gasoline last month?
b. What weighted average price per litre did Preston pay for gasoline last month? Round to the cent.
c. Which averaging method is the better reflection of Preston's gasoline cost last month? Why?

a) $1.31 b) $1.29 c) Weighted average is better because the price of gasoline fluctuates each day.

Difficulty: Moderate
Learning Objective: 01-06 Calculate the simple average or weighted average (as appropriate) of a set of values.
Topic: 01-12 Simple and Weighted Averages

375. Lauren's gross pay for July was $3188.35 on net sales totalling $88,630. If her base salary is $1,000 per month, what is her rate of commission on sales exceeding her monthly quota of $40,000?

4.50%

Difficulty: Moderate
Learning Objective: 01-05 Calculate the gross earnings of employees paid a salary, an hourly wage, or commissions.
Topic: 01-11 Commissions

376. Johnston Distributing, Inc. files quarterly GST returns. The purchases on which it paid the GST and the sales on which it collected the GST for the last four quarters were as follows:

Quarter	Purchases	Sales
1	$596,476	$751,841
2	967,679	627,374
3	823,268	1,231,916
4	829,804	994,622

Calculate the GST remittance or refund due for each quarter.

Q1) $7,768.25 and Q2) $(17,015.25) and Q3) $20,432.40 and Q4) $8,240.90

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

377. Sawchuk's Home and Garden Centre files monthly HST returns. The purchases on which it paid the HST and the sales on which it collected the HST for the last four months were as follows:

Month	Purchases	Sales
March	$135,650	$57,890
April	213,425	205,170
May	176,730	313,245
June	153,715	268,590

Based on an HST rate of 13%, calculate the HST remittance or refund due for each month.

March) $(10,108.80) and April) $(1,073.15) and May) $17,746.95 and June) $14,933.75

Difficulty: Easy
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

378. Calculate the total amount, including both GST and PST, that an individual will pay for a car sold for $39,500 in: a) Alberta b) Quebec c) British Columbia

a) $41,475.00 and b) $45,415.13 and c) $44,240

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-17 Provincial Sales Tax (PST)

379. a) To the nearest whole percent, what percentage is the HST of an HST-inclusive price in New Brunswick?

b) The total price including HST of an item is $171.35. What is the amount of HST included in the price?

a. 13%; b. $22.35

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-16 Goods and Services Tax (GST); Harmonized Sales Tax (HST)

380. a) Express a property tax increase of 0.1 mill in terms of dollars per $100 of assessed value?

b) If the mill rate increases by 0.1 mill, what is the dollar increase in property taxes on a $200,000 home?

a) $0.01 per $100 and b) $20.00

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

381. The assessment on a farm consists of $143,000 for the house and $467,000 for the land and buildings. A mill rate of 15.0294 applies to residences, and a rate of 4.6423 applies to agricultural land and buildings. What are the total property taxes payable on the farm?

$4,317.16

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

382. The assessed value on a property increased from $285,000 last year to $298,000 in the current year. Last year's property tax rate was $1.56324 per $100 of assessed value. a) What will be the change in the property tax from last year if the new tax rate is set at $1.52193 per $100? b) What would the new tax rate have to be for the dollar amount of the property taxes to be unchanged?

a) $121.43 increase and b) $1.49504 per $100

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

383. The school board in a municipality will require an extra $2,430,000 for its operating budget next year. The current mill rate for the school tax component of property taxes is 7.1253. a) If the total of the assessed values of properties in the municipality remains at the current figure of $6.78 billion, at what value must next year's school mill rate be set? b) If the total of all assessed values rises by 5% over this year's aggregate assessment, at what value must next year's school mill rate be set?

a) 7.4837 and b) 7.1273

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-18 Property Tax

384. One year ago Helga allocated the funds in her portfolio among five securities in the amounts listed in the following table. The rate of return on each security for the year is given in the third column of the table.

Security	Amount invested	Rate of Return for the year
Company U shares	$5,000	30%
Province V bonds	20,000	-3
Company W shares	8,000	-15
Units in Fund X	25,000	13
Company Y shares	4,500	45

Calculate the rate of return for the entire portfolio.

7.96%

Difficulty: Moderate
Learning Objective: 01-07 Perform basic calculations for the Goods and Services Tax, Harmonized Sales Tax, provincial sales tax, and real property tax.
Topic: 01-14 Weighted Average

385. Evaluate the following: 30 ÷ 3 + 12 ÷ 4

13

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

386. Evaluate the following: $30 \div (3 + 12) \div 2$

1

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

387. Evaluate the answer correct to the cent:

$$\frac{(8-4)^2}{4-2^3}$$

-4

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations

388. Evaluate the following: $96 - (6 - 4^2) \times 7 - 2$

164

Difficulty: Easy
Learning Objective: 01-01 Perform Arithmetic operations in their proper order.
Topic: 01-01 Order of Operations