

Exam

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 1) Arrange these numbers in order from smallest to largest: 134, 85, 267, 14, 209

Answer: 14, 85, 134, 209, 267

- 2) Arrange these numbers in order from largest to smallest: 518, 43, 145, 78, 307

Answer: 518, 307, 145, 78, 43

- 3) Write two inequalities for the following pair of numbers: 73 and 75

Answer: $73 < 75$, $75 > 73$

- 4) Write two inequalities for the following pair of numbers: 648 and 626

Answer: $648 > 626$, $626 < 648$

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 5) Abe made \$2020. Bill made \$2002. Charlie made \$2202.

David made \$2200. List these wage earners in ascending order of wages:

A) Abe, Bill, Charlie, David

B) Bill, Abe, David, Charlie

C) David, Charlie, Bill, Abe

D) Bill, Abe, Charlie, David

Answer: B

- 6) List the following numbers in descending order: 465, 654, 456, 564, 645, 546:

A) 654, 645, 564, 546, 465, 456

B) 456, 465, 546, 564, 645, 654

C) 654, 456, 564, 546, 645, 465

D) 645, 654, 546, 564, 465, 456

Answer: A

- 7) Compare 2011 and 2010.

A) $2011 > 2010$

B) $2011 < 2010$

C) $2011 = 2010$

D) insufficient information

Answer: A

- 8) Compare 1004 and 1040.

A) $1004 > 1040$

B) $1004 < 1040$

C) $1004 = 1040$

D) insufficient information

Answer: B

- 9) Write $\frac{5}{1,000}$ in decimal form.

A) 5000

B) 0.05

C) 0.0005

D) 0.005

Answer: D

10) Write $\frac{246}{100}$ in decimal form.

A) 2.46

B) 0.246

C) 24.6

D) 246

Answer: A

11) Write $\frac{6}{10}$ in decimal form.

A) 0.6

B) 1.67

C) 6.0

D) 0.06

Answer: A

12) Write 2.5 as a fraction with a power-of-ten denominator.

A) $\frac{25}{10}$

B) $\frac{2.5}{10}$

C) $\frac{25}{1,000}$

D) $\frac{25}{100}$

Answer: A

13) Write 0.035 as a fraction with a power-of-ten denominator

A) $\frac{35}{10}$

B) $\frac{35}{1,000}$

C) $\frac{35}{100}$

D) $\frac{35}{10,000}$

Answer: B

14) Choose the largest of the following numbers:

A) 6.178

B) 6.27

C) 6.09

D) 6.219

E) 6.43

Answer: E

15) Choose the largest of the following numbers:

A) 3.41

B) 3.346

C) 3.4

D) 3.407

E) 3.398

Answer: A

16) Arrange the numbers 0.21, 0.205, 0.219 in order from smaller to larger.

A) 0.219, 0.21, 0.205

B) 0.205, 0.219, 0.21

C) 0.205, 0.21, 0.219

D) 0.21, 0.205, 0.219

Answer: C

17) Arrange the numbers 2.59, 3.58, 3.507 in order from smaller to larger.

A) 2.59, 3.58, 3.507

B) 2.59, 3.507, 3.58

C) 3.507, 3.58, 2.59

D) 3.507, 2.59, 3.58

Answer: B

18) Which number is closest to 2.3?

A) 2.287

B) 2.4

C) 2.387

D) 2.2

Answer: A

- 19) A washer has an inside diameter of 0.27 in. Which bolt is more likely to fit it?
- A) A bolt with a diameter of 0.2 in. B) A bolt with a diameter of 0.278 in.
C) A bolt with a diameter of 0.265 in. D) A bolt with a diameter of 0.277 in.

Answer: C

- 20) A spark plug gap for a lawn mower needs to be set between 0.60 mm and 0.63 mm. Which one of the following measurements would be acceptable?
- A) 0.598 B) 0.6157 C) 0.72 D) 0.07

Answer: B

- 21) Older American cars have spark plug gaps measured in inches. The range is between twenty-five thousandths and thirty-five thousandths of an inch. Which one of the following would be an acceptable measurement?
- A) 0.280 in. B) 0.0038 in. C) 0.038 in. D) 0.028 in.

Answer: D

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 22) Which number is larger, 3.78 or 3.9?

Answer: 3.9

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 23) Which number is smaller, 5.0901 or 5.0910?
- A) 5.0901 B) 5.0910
C) They are equal. D) none of the above

Answer: A

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 24) Round the following number to the nearest thousand: 5,385

Answer: 5,000

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 25) Round 19.98 to the nearest whole number.
- A) 19.98
B) 19
C) 20
D) 19.10
E) none of the above

Answer: C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 26) Round \$23.476 to the nearest cent.

Answer: \$23.48

27) Round 45.678 to the nearest tenth.

Answer: 45.7

28) Round \$65.783 to the nearest cent.

Answer: \$65.78

29) Round 43.895 to the nearest tenth.

Answer: 43.9

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

30) Round 62.488 to the tens place.

A) 62

B) 62.5

C) 60

D) 70

Answer: C

31) Round 24.65 to the nearest ten.

A) 20

B) 30

C) 25

D) 24.7

Answer: A

32) Round 3.69 to the nearest whole number.

A) 4

B) 3.7

C) 3

D) 3.6

Answer: A

33) Round 62.488 to the tenths place.

A) 62.49

B) 62

C) 60

D) 62.5

Answer: D

34) The Internal Revenue Service allows you to round values to the nearest dollar on your income tax return. If you entered a deduction of \$247.53 rounded to the nearest dollar, what would you enter?

A) \$247.50

B) \$247

C) \$250

D) \$248

Answer: D

35) Round 587,459 to the nearest thousand.

A) 600,000

B) 588,000

C) 587,500

D) 587,000

Answer: D

36) Round 54,998 to one nonzero digit.

A) 60,000

B) 0

C) 54,000

D) 50,000

Answer: D

37) Round \$2,399.0996 to the nearest cent.

A) \$2,399.00

B) \$2,400.00

C) \$2,399.09

D) \$2,399.10

Answer: D

38) Round \$7.3989 to the nearest cent.

A) \$7.40

B) \$7.39

C) \$7.00

D) \$7.45

Answer: A

39) Round 0.087 to the nearest hundredth.

A) 0.09

B) 0.007

C) 0.08

D) 0.1

Answer: A

40) You stop at the grocery store on the way home to pick up a few items. Round to the place of the first digit the items valued at \$3.72, \$.41, \$1.28, and \$.65.

A) \$4, \$0.40, \$1, \$0.70

B) \$3, \$0.40, \$1, \$0.60

C) \$3, \$0.40, \$1, \$0.70

D) \$4, \$0.50, \$2, \$0.70

Answer: A

41) Kilowatt readings were taken for the months of June at 1,520, July at 1,358, August at 1,298, September at 1,805, and October at 965. Round each amount to the nearest thousand to identify the months with the most similar power usage.

A) June 2,000, July 1,000, August 1,000, September 2,000, October 900

B) June 1,000, July 1,000, August 2,000, September 2,000, October 1,000

C) June 2, July 1, August 1, September 2, October 1

D) June 2,000, July 1,000, August 1,000, September 2,000, October 1,000

Answer: D

42) Add: $42,387 + 2,954 + 2,768 + 9,735$

A) 57,854

B) 57,944

C) 57,954

D) 57,844

E) none of the above

Answer: D

43) Perform the indicated operations without a calculator: $42 + 158 + 780 + 2 =$

A) 981

B) 982

C) 11,192

D) 971

Answer: B

44) Jose buys a few snacks to take to a party. He buys 1 can of large pitted olives at \$.79, 1 can of mixed nuts at \$3.99, a huge bag of potato chips at \$3.29, and a 12-pack of soda pop at \$2.99. How much did he pay at the checkout stand?

A) \$11.18

B) \$10.00

C) \$43.95

D) \$11.06

Answer: D

45) Perform the indicated operations without a calculator: $\$31,547 - \$23,999 =$

A) \$7,548

B) \$8,758

C) \$18,758

D) \$7,558

Answer: A

46) Subtract: $2,096 - 1,738$

- A) 360
- B) 362
- C) 358
- D) 3,834
- E) none of the above

Answer: C

47) Add: $467 + 83 + 8,295 + 8$

- A) 8,743
- B) 16,478
- C) 8,853
- D) 16,847
- E) none of the above

Answer: C

48) Add: $5 + 210 + 8,023 + 99$

- A) 13,232
- B) 8,337
- C) 8,233
- D) 13,332
- E) none of the above

Answer: B

49) The blueprint specification for a machined part calls for its thickness to be 2.584 in. with a tolerance of ± 0.050 in. What are the limit dimensions of the part?

- A) 2.634 and 2.534
- B) 2.609 and 2.559
- C) ± 2.534
- D) ± 2.634

Answer: A

50) If you receive a paycheck for \$375 and pay out \$265 in bills, what do you have left?

- A) \$325
- B) \$120
- C) \$101
- D) \$110

Answer: D

51) Subtract: $5,290 - 2,916$

- A) 2,373
- B) 2,374
- C) 8,206
- D) 8,216
- E) none of the above

Answer: B

52) Subtract: $48,006 - 3,215$

- A) 44,791
- B) 51,212
- C) 44,719
- D) 51,221
- E) none of the above

Answer: A

53) Add: $528 + 304 + 792$

- A) 1,624
- B) 1,514
- C) 1,524
- D) 1,614
- E) none of the above

Answer: A

54) Add: $35,821 + 3,957 + 2,036 + 8,453$

- A) 50,267
- B) 50,157
- C) 48,267
- D) 48,157
- E) none of the above

Answer: A

55) Subtract: $3,058 - 1,437$

- A) 1,495
- B) 2,621
- C) 1,621
- D) 4,495
- E) none of the above

Answer: C

56) Add: $395 + 76 + 6,375 + 5$

- A) 5,825
- B) 22,925
- C) 11,846
- D) 6,851
- E) none of the above

Answer: D

57) Add: $8 + 510 + 2,095 + 77$

- A) 10,681
- B) 2,690
- C) 5,185
- D) 22,895
- E) none of the above

Answer: B

58) Subtract: $7,805 - 3,924$

- A) 3,881
- B) 11,729
- C) 3,921
- D) 4,809
- E) none of the above

Answer: A

59) Subtract: $72,007 - 4,386$

- A) 43,389
- B) 67,621
- C) 34,616
- D) 76,393
- E) none of the above

Answer: B

60) Add: $813 + 502 + 307$

- A) 9,388
- B) 1,612
- C) 1,622
- D) 1,602
- E) none of the above

Answer: C

61) Subtract: $8 - 3.76$

- A) 3.08
- B) 3.68
- C) 4.24
- D) 5.76
- E) none of the above

Answer: C

62) Add: $58 + 12.97$

- A) 12.155
- B) 70.97
- C) 13.55
- D) 0.1355
- E) none of the above

Answer: B

63) Add the following: $56.76 + 7.7$

- A) 64.46
- B) 57.53
- C) 13.376
- D) 63.146
- E) none of the above

Answer: A

64) Add: 8

4

2

9

+ 6

- A) 30
- B) 29
- C) 28
- D) 31

Answer: B

65) Write $45 + 306 + 7 + 243 + 19$ in a column and add.

- A) 1,889
- B) 590
- C) 610
- D) 620

Answer: D

66) Add: $15.8 + 42.17 + 6.87$

- A) 0.06484
- B) 64.12
- C) 64.84
- D) 5.062

Answer: C

67) Add: 0.3874

+ 0.9163

- A) 0.129137
- B) 0.00013037
- C) 1.3037
- D) 1.2937

Answer: C

68) Subtract: $15 - 7 - 5$

- A) 4
- B) 13
- C) 3
- D) 12

Answer: C

69) Subtract:
$$\begin{array}{r} 53.65 \\ - 8.54 \\ \hline \end{array}$$

- A) 55.11 B) .4511 C) 45.11 D) 62.19
Answer: C

70) Subtract: $98 - 6.73$

- A) 97.37 B) 3.83 C) 91.27 D) 92.37
Answer: C

71) Subtract: $31,144 - 2,591$

- A) 28,653 B) 28,553 C) 29,553 D) 29,653
Answer: B

72) Subtract: $2,001 - 1,776$

- A) 225 B) 1,775 C) 325 D) 335
Answer: A

73) Subtract:

$$\begin{array}{r} 7,008 \\ - 3,463 \\ \hline \end{array}$$

- A) 3,645 B) 4,645 C) 4,465 D) 3,545
Answer: D

74) Find the difference:

$$\begin{array}{r} 608 \\ - 349 \\ \hline \end{array}$$

- A) 361 B) 369 C) 359 D) 259
Answer: D

75) Add: $5,203$

$$\begin{array}{r} 2,316 \\ + 1,092 \\ \hline \end{array}$$

- A) 8,611 B) 3,031 C) 8,501 D) 851,011
Answer: A

76) Paula bought a bag of taffy. She chose 8 pieces of cinnamon, 17 pieces of licorice, 50 pieces of creme, 32 pieces of chocolate and 26 pieces of peanut butter. How many pieces of taffy did she buy?

- A) 205 pieces B) 133 pieces C) 113 pieces D) 88 pieces
Answer: B

77) Huong had a jar full of coins. He sorted them by monetary value and found he had 5 silver dollars, 1032 pennies, 526 dimes, 120 nickels, 6 half-dollars, and 103 quarters. How many coins were in the jar?

- A) 1,792 coins B) 15,722 coins C) 1,800 coins D) 1,789 coins

Answer: A

78) One hundred table decorations were created for a banquet. How much did it cost to make the decorations if the paint cost \$24.52, wood cost \$142.54, piping cost \$42.70, flags cost \$34.95 and pins cost \$2.74?

- A) \$244.345 B) \$247.45 C) \$134.35 D) \$250

Answer: B

79) Helga decided to keep track of her long distance telephone charges for six months. Find the total for the six months if the charges were \$28.07, \$63.87, \$42.91, \$31.28, \$37.15 and \$27.88.

- A) \$230.96 B) \$231.16 C) \$208.86 D) \$223.33

Answer: B

80) Gary checked the current in a parallel circuit by adding up the individual currents. His meter read 6.315 A, 3.048 A and 5.72 A. Determine the total current.

- A) 14.073 A B) 15.083 A C) 9.935 A D) 1.583 A

Answer: B

81) A secretary had four copy jobs to do for the office. She had exactly one ream (500 sheets per ream) of paper. She rounded to the nearest ten and decided she would be able to finish all four jobs. If the first job needs 122 sheets, the second job uses 247, the third job uses 55, and the fourth job needs 80 sheets, did she finish them all?

- A) no; estimation is 520 B) yes; estimation is 490
C) no; estimation is 510 D) yes; estimation is 504

Answer: C

82) Cody stopped by the grocery store on the way home from school. He had nine dollars in his wallet. He selected the following items: a can of green beans at \$.39; a jar of dill pickles at \$2.29; three pounds of hamburger at \$4.39; a head of lettuce at \$.95; and a bottle of dressing at \$1.49. First, he estimated the cost of the groceries to the nearest dollar then decided to also estimate to the nearest dime. Give both estimates and decide which method was more accurate for this situation.

- A) Dollar: \$8.00; dime: \$9.60; estimation to the nearest dime.
B) Dollar: \$9.00; dime: \$9.60; either would be fine.
C) Dollar: \$9.00; dime: \$9.60; estimation to the nearest dime.
D) Dollar: \$9.00; dime: \$9.10; either would be fine.

Answer: A

- 83) A hardware store sells chain in three-foot increments. Lauren needed to repair swings in the park. She measured each length needing replacement: 5 ft 2 in., 9 ft 7 in., 8 ft 11 in., and 7 ft 5 inches. What is the length she must buy for each of the four swings?
- A) 6 ft, 10 ft., 9 ft, 8 ft B) 5 ft, 10 ft., 9 ft, 7 ft
C) 6 ft, 12 ft, 9 ft, 9 ft D) 6 ft, 9 ft, 9 ft, 9 ft

Answer: C

- 84) Estimate the sum by rounding addends to whole numbers. Then use a calculator to find the exact sum: $2.80 + 5.09 + 3.94 + 6.01$.
- A) 16; 17.84 B) 18; 17.74 C) 18; 17.84 D) 17; 16.74

Answer: C

- 85) Estimate the sum by rounding addends to whole numbers. Then use a calculator to find the exact sum: \$45.22, \$39.99, \$4.15, \$95.66 and \$101.02.
- A) \$294; \$286.04 B) \$286; \$286.04 C) \$264; \$286.04 D) \$294; \$2324.72

Answer: B

- 86) Estimate the sum by rounding to the nearest whole number: $2.78 + 8.48$
- A) 10 B) 12 C) 11 D) 9

Answer: C

- 87) Willie went Christmas shopping. He spent \$75, \$93.59, \$10.99, \$5.59, \$22.96, and \$6.69. He rounded the values to whole numbers and wrote a check for the sum before he got to the register. Find the estimated sum and the actual sum, and decide if it was enough to cover the bill.
- A) \$216; bill was \$214.82; no B) \$223; bill was \$214.82; yes
C) \$213; bill was \$216.00; no D) \$201; bill was \$214.82; no

Answer: A

- 88) Subtract: $1,536 - 1,232$
- A) 306 B) 1,304 C) 304 D) 308

Answer: C

- 89) A computer chip manufacturer had an inventory of 8,697 chips. The company had orders of: 1,231, 1,121, 214, and 2,030. How many chips were left on the inventory list?
- A) 4,001 chips B) 4,596 chips C) 4,101 chips D) 4,606 chips

Answer: C

- 90) Subtract: 5.9 from 14.8
- A) 8.9 B) 9.1 C) 44.2 D) 9.9

Answer: A

91) A music CD costs \$9.99. How much change would you receive if you paid with a twenty-dollar bill?

A) \$9.01

B) \$11.01

C) \$10.99

D) \$10.01

Answer: D

92) Subtract and check your answer: $2,155 - 919$

A) 1,844

B) 1,236

C) 1,246

D) 1.136

Answer: B

93) Estimate answer by rounding numbers to the nearest ten. Then find the exact answer. A welder uses 88 welding rods for his first job and 19 welding rods for a second job. How many more rods did he use for the first job?

A) 60 rods; 69 rods

B) 70 rods; 69 rods

C) 70 rods; 71 rods

D) 60 rods; 79 rods

Answer: B

94) Simone has \$220.00 with her. She goes shopping for some computer supplies. She spends \$34.35 for printer ink cartridges, \$14.96 for two reams of ink jet paper, \$9.95 for two cans of canned air, \$11.99 for a CD rack and \$143.99 for three software programs. How much does she spend? Does she have enough left to stop off for a \$4.59 hamburger meal on the way home?

A) \$216.25; yes

B) \$216.24; no

C) \$215.24; no

D) \$215.24; yes

Answer: D

95) Jill deposited \$240 into a new checking account. She wrote checks of \$23.67, \$57.24, and \$68.34. How much is now in her account?

A) \$389.25

B) \$149.25

C) \$100.75

D) \$90.75

Answer: D

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

96) Give an example of subtraction that is commutative and one that is not.

Answer: Answers will vary.

97) Why do you think additive identity is a valid name for 0?

Answer: Answers will vary.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

98) Multiply: 403×27

- A) 10,881
- B) 10,161
- C) 1181
- D) 1161
- E) none of the above

Answer: A

99) A small office manager wants to buy new cordless phones for each of the office's 11 desks. Each phone costs \$89.99. Estimate the total cost by using numbers with one nonzero digit. Find the exact amount.

- A) \$900; \$989.89
- B) \$800; \$989.89
- C) \$800; \$989.99
- D) \$900; \$898.98

Answer: A

100) Multiply: 713×40

- A) 28,520
- B) 2825
- C) 28,250
- D) 2852
- E) none of the above

Answer: A

101) Multiply: 237×702

- A) 17,064
- B) 166,374
- C) 166,437
- D) 170,640
- E) none of the above

Answer: B

102) Perform the indicated operations without a calculator: $462/14 =$

- A) 34
- B) 32
- C) 33
- D) 31

Answer: C

103) Multiply: $5,700 \times 400$

- A) 2,280
- B) 22,800
- C) 2,280,000
- D) 228
- E) none of the above

Answer: C

104) Divide: $3,374 \div 7$

- A) 482
- B) 402
- C) 401
- D) 481
- E) none of the above

Answer: A

105) Divide: $8,512 \div 28$

- A) 340
- B) 34
- C) 3,004
- D) 304
- E) none of the above

Answer: D

106) Divide: $6,118 \div 38$

- A) 259
- B) 161
- C) 159
- D) 160
- E) none of the above

Answer: B

107) Estimate the quotient by rounding the divisor and dividend to numbers with one nonzero digit. Find the exact value. $62.5 \overline{) 8,615.4375}$

- | | |
|---------------------|--------------------|
| A) 0.0075; 0.007254 | B) 0.0075; 137.847 |
| C) 150; 137.847 | D) 133; 137.847 |

Answer: C

108) Find the average of these test scores, rounding to the nearest whole number:

82, 95, 89, 94, 72, 87

- | | | | |
|-------|-------|--------|-------|
| A) 87 | B) 86 | C) 865 | D) 90 |
|-------|-------|--------|-------|

Answer: A

109) How many 1.5-foot lengths can be cut out of a 14-foot 2×4, ignoring the amount used by the blade of the saw?

- | | | | |
|-------|------|-------|-------|
| A) 18 | B) 9 | C) 21 | D) 10 |
|-------|------|-------|-------|

Answer: B

- 110) A contractor has a weekly payroll of \$6,976 for 32 employees. What is the average weekly salary of each employee?
- A) \$228
 - B) \$238
 - C) \$208
 - D) \$218
 - E) none of the above

Answer: D

- 111) A surveyor earns \$2,246 monthly. What is the annual salary?
- A) \$26,952
 - B) \$112,300
 - C) \$22,460
 - D) \$187.17
 - E) none of the above

Answer: A

- 112) An inventory clerk has 8 boxes of bolts each containing 144 bolts and 12 boxes of the same bolts each containing 72 bolts. How many bolts are there?
- A) 312
 - B) 544
 - C) 2016
 - D) 236
 - E) none of the above

Answer: C

- 113) A welder can make 8 welds in an hour. How many welds can 26 welders make in a 40-hour week if all work at the same rate?
- A) 5,260
 - B) 74
 - C) 8,320
 - D) 130
 - E) none of the above

Answer: C

- 114) Multiply: 507×34
- A) 19,380
 - B) 1,938
 - C) 17,238
 - D) 17,580
 - E) none of the above

Answer: C

115) Multiply: 415×50

- A) 11,720
- B) 20,750
- C) 2,075
- D) 20,550
- E) none of the above

Answer: B

116) Multiply: 384×608

- A) 313,582
- B) 512,672
- C) 26,112
- D) 233,472
- E) none of the above

Answer: D

117) Multiply: $5,300 \times 600$

- A) 3,180,000
- B) 31,800,000
- C) 31,800
- D) 318,000
- E) none of the above

Answer: A

118) Divide: $4,743 \div 9$

- A) 504
- B) 527
- C) 417
- D) 536
- E) none of the above

Answer: B

119) Divide: $9,614 \div 19$

- A) 506
- B) 516
- C) 560
- D) 56
- E) none of the above

Answer: A

120) Divide: $4,368 \div 26$

- A) 168
- B) 148
- C) 214
- D) 142
- E) none of the above

Answer: A

121) A contractor has a weekly payroll of \$5,625 for 25 employees. What is the average salary of each employee?

- A) \$205
- B) \$20,089
- C) \$140,625
- D) \$225
- E) none of the above

Answer: D

122) A tool and die maker earns \$1,625 monthly. What is the annual salary?

- A) \$19,500
- B) \$84,500
- C) \$3264
- D) \$16,250
- E) none of the above

Answer: A

123) An inventory clerk has 6 boxes of screws each containing 384 screws and 10 boxes of the same screws each containing 96 screws. How many screws are there?

- A) 496 screws
- B) 2,205 screws
- C) 1,440 screws
- D) 3,264 screws
- E) none of the above

Answer: D

124) A welder can make 12 welds in an hour. How many welds can 15 welders working at this rate make in an 8 hour day?

- A) 1,280
- B) 1,440
- C) 180
- D) 640
- E) none of the above

Answer: B

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

125) Find the average of the following scores: 90, 82, 65, 77, and 93

Answer: 81.4

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

126) Divide and round to hundredths: $0.2257 \div 35$

- A) 0.001
- B) 0.02
- C) 0.01
- D) 0.1
- E) none of the above

Answer: C

127) Multiply: 1.01×0.231

- A) 2.3331
- B) 0.23331
- C) 0.023331
- D) 23.331
- E) none of the above

Answer: B

128) Divide: $6.6 \div 2.4$

- A) 2.75
- B) 27.5
- C) 275
- D) 0.275
- E) none of the above

Answer: A

129) Divide: $1.032 \div 0.4$

- A) 0.258
- B) 258
- C) 25.8
- D) 2.58
- E) none of the above

Answer: D

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

130) How many 1.7-meter lengths can be cut from a 27.2-meter piece of steel reinforcement rod? (Disregard waste from cutting.)

Answer: 16

- 131) How many 1.2-centimeter lengths can be cut from a 43.2-centimeter piece of steel reinforcement rod? (Disregard waste from cutting.)

Answer: 36

- 132) Ted has scores of 67, 85, 92, and 78 on his tests. What is the lowest score he can make on the next test that will bring his average up to an 82?

Answer: 88

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 133) Multiply: $(7)(4)(8)(3)$

A) 672 B) 22 C) 756 D) 896

Answer: A

- 134) Multiply: 102×703

A) 409 B) 8,436 C) 71,706 D) 7,446

Answer: C

- 135) Find the average and round to the same place value as that used in the problem.

Cost of a can of cat food: 51¢, 94¢, 15¢, 73¢, 48¢, 51¢, 33¢

A) 52.14¢ B) 53¢ C) 52¢ D) 51¢

Answer: C

- 136) Use your calculator to do this problem. Determine the monthly salary of Renee if she grosses \$35,426.00 per year.

A) \$681.27 B) \$2,952.17 C) \$2,955.17 D) \$2,900

Answer: B

- 137) A reel of wire 225 feet long must be cut into 8.2 foot lengths for speaker wires. How many lengths can be cut from this reel?

A) 27 B) 28 C) 26 D) 25

Answer: A

- 138) Multiply: $\begin{array}{r} 34.7 \\ \times 1.8 \\ \hline \end{array}$

A) 624.6 B) 0.6246 C) 62.46 D) 6.246

Answer: C

- 139) Multiply: 47.06×0.002

A) 9.412 B) 94.12 C) 0.9412 D) 0.09412

Answer: D

140) Find the approximate cost by rounding to a single digit and then find the exact cost of 12 cans of cat food if each can costs \$0.49.

A) \$5; \$5.88

B) \$6; \$5.88

C) \$6; \$5.78

D) \$5; \$5.78

Answer: A

141) Find the product of 43 and 99.

A) 3,627

B) 3,957

C) 4,257

D) 4,037

Answer: C

142) Use your calculator to find the following product: $2,869 \times 108 \times 54 \times 299$.

A) 5,002,871

B) 5,049,952,128

C) 5,002,870,932

D) 5,002,870,392

Answer: D

143) Use your calculator to find the following product: $28 \cdot 0.025 \cdot 204 \times 18(0.09)$

A) 332.856

B) 360

C) 331.18

D) 231.336

Answer: D

144) Perform this long division problem without a calculator: $9 \overline{)135}$

A) 6.6

B) 15

C) 19

D) 1.5

Answer: B

145) Perform this long division problem without a calculator: $896 \div 14 =$

A) 0.015625

B) 69

C) 60 with remainder of 4

D) 64

Answer: D

146) Perform this long division problem without a calculator: $4 \overline{)11.32}$

A) 0.283

B) 2.83

C) 283

D) 28.3

Answer: B

147) Perform this long division problem without a calculator: $0.09 \overline{)0.1845}$

A) 20.5

B) 2.5

C) 0.205

D) 2.05

Answer: D

148) Find the quotient. $3.2 \overline{)570.25}$

A) 5.61157387

B) 178

C) 178.203125

D) 178 R65

Answer: C

149) Find the quotient. $243 \overline{)829.512}$

A) 3.41362963

B) 3.413 R62963

C) 3,413.62963

D) 3,413 R62963

Answer: A

- 150) Find the average and round to the same place value as that used in the problem.
Temperature averages for Caribou, Maine: 20° , 18° , 32° , 45° , 61° , 69° , 78° , 73° , 64° , 52° , 37° , 24° .
A) 48° B) 47.75° C) 47.5° D) 47°
Answer: A
- 151) Find the average and round to the same place value as that used in the problem. Alabama Statewide Average Bi-Monthly Precipitation 2005 measured in inches: 6.12, 14.22, 15.03, 8.62, 3.94, 8.92.
A) 9.40 inches B) 9.50 inches C) 9.48 inches D) 9.475 inches
Answer: C
- 152) Use your calculator. Find the quotient and round the answer to the nearest whole number. $6.4 \overline{)643.448}$
A) 101 B) 100 C) 100.5 D) 100.53875
Answer: A
- 153) Divide: $2.5 \overline{)33.25}$
A) 1.33 B) 13.3 C) 1,330 D) 133
Answer: B
- 154) Divide, rounding to the nearest hundredth: $7 \overline{)42.83}$
A) 6.12 B) 61.2 C) 612 D) 6.11
Answer: A
- 155) Find the average of these numbers: 6, 5, 9, 11, 8, 9
A) 6 B) 8 C) 9 D) 7
Answer: B
- 156) Find the product of 3.05×0.03
A) 9.15 B) 0.915 C) 0.0915 D) 0.00915
Answer: C
- 157) Divide and round the answer to the nearest whole number. $12 \overline{)52,825.23}$
A) 5,000 B) 4,400 C) 4,402 D) 4,402.1025
Answer: C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 158) A student turned in the following work in multiplying two numbers on a test paper. Can you decide what was done incorrectly and then give the correct answer?

$$\begin{array}{r} 25.6 \\ \times \quad 2.4 \\ \hline 1024 \\ 512 \\ \hline 614.4 \end{array}$$

Answer: The student incorrectly located the decimal point. The correct answer should be 61.44.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 159) Jeffery is selling candy bars for his school's band. If each candy bar sells for \$2.00, how much will he make for the band if he sells 35 boxes and each box contains 24 bars?

A) \$118 B) \$1,680 C) \$1,440 D) \$3,360

Answer: B

- 160) Lakita sold 45 necklaces at \$15 each. How much did she collect?

A) \$675 B) \$655 C) \$60 D) \$725

Answer: A

- 161) Tyres purchased five boxes of pencils, each containing two-hundred twenty-five pencils. She also bought three boxes of colored pencils, each box containing twenty-four pencils. How many total pencils did she buy?

A) 1,197 pencils B) 1,992 pencils C) 1,187 pencils D) 302 pencils

Answer: A

- 162) Multiply: 0.29×3.001

A) 0.899 B) 0.00899 C) 0.87029 D) 0.087029

Answer: C

- 163) A micrometer is designed so that the screw thread makes the spindle advance 0.025 in. in one complete turn. How far will the spindle advance in 30 complete turns?

A) 0.075 in. B) 75 in. C) 7.5 in. D) 0.75 in.

Answer: D

- 164) A retailer buys 75 boxes of computer paper at \$33.60 per box. He retails a box at \$51.48. If he sells all 75 boxes, what is his profit?

A) \$3,861 B) \$1,341 C) \$2,520 D) \$1,416

Answer: B

165) How much molding is needed to go around a ceiling if there are no breaks in a room that measures 14 ft. by 20 ft?

- A) 34 feet B) 280 feet C) 1,156 feet D) 68 feet

Answer: D

166) Jason designed a freestanding playpen for his young daughter in his backyard. How much fencing must he buy if the width is 18 feet and the length is 10 feet?

- A) 56 feet B) 28 feet C) 46 feet D) 180 feet

Answer: A

167) Estimate, by rounding to the nearest foot, how many square feet of carpet should be purchased to cover the floor of a rectangular room that measures 28.2 feet by 19.9 feet.

- A) 561.18 square feet B) 600 square feet
C) 96 square feet D) 560 square feet

Answer: D

168) Use your calculator to find the following product: $4.2(65)(0)(0.7)(2)$

- A) 0 B) 273 C) 3,822 D) 1.4

Answer: A

169) Juan Guerrez earns \$789.24 each week including a two-week paid vacation as a foreman in a landscape maintenance division of a hospital. Calculate his annual salary.

- A) \$41,508.48 B) \$41,040.48 C) \$9,470.88 D) \$41,600

Answer: B

170) Identify the divisor, the dividend, and the quotient in this problem:

$$\frac{28}{4} = 7$$

- A) The divisor is 4; the dividend is 28; the quotient is 7.
B) The divisor is 4; the dividend is 7; the quotient is 28.
C) The divisor is 28; the dividend is 4; the quotient is 7.
D) The divisor is 7; the dividend is 28; the quotient is 4.

Answer: A

171) Sara drove 532 miles and used exactly 14 gallons of gas. How many miles did she average on one gallon of gas?

- A) 26 miles B) 37 miles C) 25 miles D) 38 miles

Answer: D

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

172) Estimation is an extremely important tool. Give some useful examples of using estimation.

Answer: Answers will vary.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

173) Change the following exponential expression to standard notation: 4^3

- A) 64
- B) 4
- C) 12
- D) 16
- E) none of the above

Answer: A

174) Express the following in standard notation: 10^4

- A) 100
- B) 1000
- C) 40
- D) 10,000
- E) none of the above

Answer: D

175) Give the base and exponent of 3.91^4 .

- A) Base is 3.91; exponent is 4.
- B) Base is 4; exponent is 3.91.
- C) Base is 1; exponent is 4.
- D) Base is 0.91; exponent is 4.

Answer: A

176) Simplify this exponential expression: 4^5

- A) 625
- B) 1,024
- C) 20
- D) 4,096

Answer: B

177) Write in exponential notation 64.

- A) 64^0
- B) 8^2
- C) 62^2
- D) 4096^2

Answer: B

178) Square the number 25.

- A) 5
- B) 625
- C) 15,625
- D) 50

Answer: B

179) Use a calculator to evaluate 13^2 .

- A) 2
- B) 13
- C) 169
- D) 26

Answer: C

180) Identify the radicand, the radical, and the square root of $\sqrt{81} = 9$.

A) Radicand is $\sqrt{81}$; radical is 81; square root is 9.

B) Radicand is 9; radical is $\sqrt{9}$; square root is 81.

C) Radicand is 9; radical is $\sqrt{81}$; square root is 9.

D) Radicand is 81; radical is $\sqrt{81}$; square root is 9.

Answer: D

181) Perform the operation $\sqrt{49} =$

A) 2,401

B) 7

C) 23

D) 24.5

Answer: B

182) Perform the operation $\sqrt{169} =$

A) 43

B) 28,561

C) 13

D) 84.5

Answer: C

183) Use a calculator to evaluate 39^2 .

A) 78

B) 1,521

C) 981

D) 381

Answer: B

184) Use a calculator to evaluate $\sqrt{529}$.

A) 23

B) 523

C) 264.5

D) 33

Answer: A

185) Perform the indicated operations without a calculator: $15^2 =$

A) 150

B) 30

C) 225

D) 23

Answer: C

186) Perform the indicated operations without a calculator: $\sqrt{36} =$

A) 2

B) 9

C) 6

D) 4

Answer: C

187) Use a calculator to evaluate $\sqrt{324}$.

A) 162

B) 18

C) 62

D) undefined

Answer: B

188) Use a calculator to evaluate $\sqrt{2,025}$.

A) 15

B) 45

C) 205

D) 55

Answer: B

189) Simplify this exponential expression: 1.4^2

A) 1.96

B) 1.16

C) .196

D) 2.8

Answer: A

190) Simplify this exponential expression: 10^5

A) 10,000

B) 1,000,000

C) 100,000

D) 50

Answer: C

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

191) Squaring 1 gives 1, squaring 0 gives back 0, and squaring a number greater than 1 results in a larger number. What happens when you square a number less than 1?

Answer: Answers will vary.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

192) Perform the indicated operations without a calculator: $35 \times 10^3 =$

A) 350,000

B) 3,500

C) 35,000

D) 350

Answer: C

193) Mentally divide by using powers of 10: $\frac{9000}{10^3}$

A) 900

B) 9

C) 300

D) 3

Answer: B

194) Perform the indicated operations without a calculator: $54 \div 10^3 =$

A) 0.054

B) 0.0054

C) 0.54

D) 54,000

Answer: A

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

195) The cost of manufacturing a gallon of cleaning solution is \$1.78. What is the cost of manufacturing 10,000 gallons of the solution?

Answer: \$17,800

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

196) Mentally multiply by using powers of 10: 10×10^4

A) 100,000

B) 1

C) 10,000

D) 1,000,000

Answer: A

197) Mentally multiply by using powers of 10: 204×100

A) 0

B) 24,000

C) 20,400

D) 204,000

Answer: C

198) Mentally multiply by using powers of 10: 6×10^3

A) 60

B) 18,000

C) 6,000

D) 180

Answer: C

199) Mentally divide by using powers of 10: $240 \div 10$

- A) 24 B) 0 C) 2,400 D) 2.4

Answer: A

200) Perform the indicated operations: $489 \times 10^4 =$

- A) 4,890,000 B) 0.0489 C) 195,000 D) 48,000,000

Answer: A

201) Find the product by multiplying first. Then check your answer by adding first.

$9(5 + 6)$

- A) 270 B) 51 C) 99 D) 108

Answer: C

202) Find the product by multiplying first. Then check your answer by subtracting first.

$6(31 - 1)$

- A) 180 B) 90 C) 25 D) 179

Answer: A

203) Determine which one of the symbols, +, -, $\times$ or $\div$, if placed in the blank would yield the largest answer: 3^5 ____ 2^2 .

- A) - B) $\times$ C) + D) $\div$

Answer: B

204) Evaluate $8^2 + 4 - 9$ following the order of operations without using a calculator.

- A) 21 B) 11 C) 69 D) 59

Answer: D

205) Perform the indicated operations: $4^2 + 3^3 =$

- A) 25 B) 35 C) 17 D) 43

Answer: D

206) Perform the indicated operations: $4^2 + \sqrt{16} =$

- A) 0 B) 32 C) 20 D) 12

Answer: C

207) Use only the numbers 2, 5, 8, and 9. Fill in the blanks to yield the smallest whole number:

____ - ____ + ____ $\times$ ____ = ?

- A) $5 - 2 + 9 \times 8 = ?$ B) $8 - 5 + 2 \times 9 = ?$ C) $9 - 8 + 2 \times 5 = ?$ D) $9 - 5 + 2 \times 8 = ?$

Answer: C

208) Evaluate $24 \div 12 \times 4$ following the order of operations without using a calculator.

- A) 0.5 B) 8 C) 2 D) 6

Answer: B

209) Evaluate $5 \times 12^2 - \frac{45}{9}$ following the order of operations using a calculator.

A) 715

B) 115

C) 75

D) 1

Answer: A

210) Evaluate $3 \times \sqrt{16} + (6 - \sqrt{4})$ following the order of operations using a calculator.

A) 26

B) 1.98

C) 16

D) 8.93

Answer: C

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

211) Evaluate: $20 - 10 \div 5 + 2^3$

Answer: 26

212) Evaluate: $\frac{8.67}{3.4} + (0.23)(3.25)$

Answer: 3.2975

213) Evaluate: $\frac{4.38}{0.14} + (0.6813)(5.87)$. Round to hundredths.

Answer: 35.28

214) Evaluate: $12(2^4 + 5^3)$

Answer: 1692

215) Evaluate: $3(6^2 + 4^4)$

Answer: 876

216) Evaluate: $3^4 + 2^5 \div \sqrt{16} - 5^2$

Answer: 64

217) Find the mistake in the following problem. Then give the correct answer.

$$5 + 7(3 - 1) = 12(3 - 1) = 12(2) = 24$$

Answer: Grouping, multiplication, then addition.

$$5 + 7(3 - 1) = 5 + 7(2) = 5 + 14 = 19$$

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

218) Evaluate $6.2^2 - 2 \times 6 \div 2$ following the order of operations without using a calculator

A) 34.44

B) 32.44

C) 6.4

D) 8.4

Answer: B

- 219) Evaluate $10 - 6 \div 2 \times 3 + \sqrt{25}$ following the order of operations without using a calculator.
 A) 11 B) 6 C) 14 D) not possible
 Answer: B
- 220) Perform the indicated operations: $4^3 - (4 + 6) \times \sqrt{25} =$
 A) 270 B) 14
 C) 38 D) none of the above
 Answer: B
- 221) Evaluate $4^2 \times (9 - 4) \times 4$ following the order of operations without using a calculator.
 A) 320 B) 160 C) 56 D) 128
 Answer: A
- 222) Which statement illustrates the use of the commutative property of addition?
 A) $5 + (12 + 4) = (5 + 4) + 12$ B) $(12 + 4) \times 5 = 5 \times (12 + 4)$
 C) $5 + (12 + 4) = 5 + (4 + 12)$ D) $5 + (12 \times 4) = 5 + (4 \times 12)$
 Answer: C
- 223) Which statement illustrates the correct use of the distributive property of multiplication?
 A) $5(11 + 9) = 100$ B) $5(11 + 9) = 55 + 45$
 C) $5(11 + 9) = 5 + (20)$ D) $5(11 + 9) = 55 + 9$
 Answer: B
- 224) Do as indicated: $\$13,208 \times 42 - \$47 \times 10^2 =$
 A) \$8.508 B) \$55,468,900 C) \$12.708 D) \$550,036
 Answer: D
- 225) Evaluate $3[4^2 + \sqrt{4}] - 40 \div 10$ following the order of operations using a calculator.
 A) -1 B) 26 C) 1.4 D) 50
 Answer: D
- 226) Evaluate $3(2.5^2 - 3) - \sqrt{2.56} - (9 - 8)^2$ following the order of operations using a calculator.
 A) 5.4 B) -40.85 C) 2.65 D) 7.15
 Answer: D
- 227) Perform the indicated operations: $169 \times 10^4 + 24 \times 10^3 =$
 A) 11,193 B) 1,714,000 C) 1,930,000,000 D) 1,930
 Answer: B

228) Perform the indicated operations: $16.9 \times 10^2 + \sqrt{49} - 3^3 + 80 \div 4 =$

A) 43.75

B) 1,690

C) 338

D) 187

Answer: B

229) Evaluate $36(4^2 - 6) - 18.92$ following the order of operations using a calculator.

A) -8.92

B) 341.08

C) 53.08

D) -321.12

Answer: B

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

230) Using the example of $9 \div 3 \times 6$, explain why the order of operations is important.

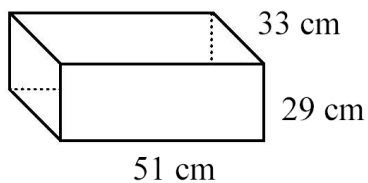
Answer: Answers will vary.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

231) A circle is milled on the end of a square rod. The length of a side of the square rod is 6.5 cm. What is the area of the end of the rod? Use the formula $A = s^2$. (Round to the nearest hundredth.)

Answer: 42.25 cm²

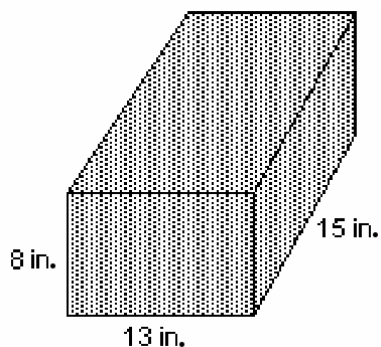
232) Find the volume of the given figure.



Answer: 48,807 cm³

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

233) Determine the volume of the given figure. Dimensions are in inches.



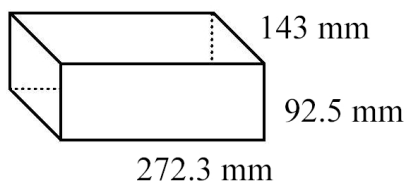
- A) 630 cubic inches
- C) 838 cubic inches

- B) 315 cubic inches
- D) 1,560 cubic inches

Answer: D

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

234) Find the volume of the given figure. Round answer to the nearest hundredth of a millimeter.



Answer: 3,601,848.25 mm³

235) Find the perimeter of a square that measures 5 cm on a side. Use the formula $P = 4s$.

Answer: 20 cm

236) Find the area of a square that measures 4 ft on a side. Use the formula $A = s^2$.

Answer: 16 ft²

237) Find the area of a rectangle that has sides of 30 and 18 inches. Use the formula $A = lw$.

Answer: 540 in²

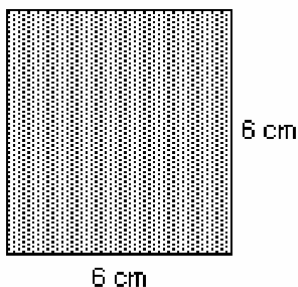
238) Find the area of a parallelogram that has a base of 30 inches and a height of 15 inches. Use the formula $P = bh$.

Answer: 450 in²

- 239) Find the perimeter of a rectangle whose length is 14 inches and whose height is 9 inches. Use the formula $P = 2(l + w)$.
Answer: 46 in.
- 240) Find the area of a rectangle with length 4 cm and width of 2 cm. Use the formula $A = lw$.
Answer: 8 cm²
- 241) Find the area of a square whose sides measure 4 ft. Use the formula $A = s^2$.
Answer: 16 ft²
- 242) Find the perimeter of a square that measures 3 ft on a side. Use the formula $P = 4s$.
Answer: 12 ft
- 243) Find the area of a rectangle whose length is 6 in. and whose width is 9 in. Use the formula $A = lw$.
Answer: 54 in²
- 244) Find the perimeter of a rectangle whose length is 9 in. and whose width is 4 in. Use the formula $P = 2(l + w)$.
Answer: 26 in.
- 245) Find the area of a parallelogram whose base is 6 in. and whose height is 3 in. Use the formula $A = bh$.
Answer: 18 in²
- 246) Find the perimeter of a parallelogram whose sides measure 3 ft and 5 ft. Use the formula $P = 2(b + s)$.
Answer: 16 ft

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

247) Find the area and the perimeter of the given figure. Use the formulas $A = s^2$ and $P = 4s$.



A) 24 cm; 36 cm²

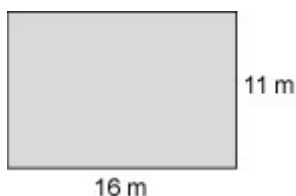
B) 36 cm; 24 cm²

C) 36 cm²; 24 cm

D) 24 cm²; 36 cm

Answer: C

248) Find the perimeter of the given figure:



A) 176 m

B) 54 m

C) 27 m

D) 54 m²

Answer: B

249) Find the area of the given rectangle:



A) 10.944 m²

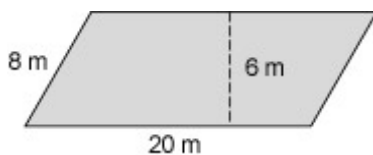
B) 109.44 m²

C) 1,094.4 m²

D) 10,944 m²

Answer: C

250) Find the area of the given parallelogram:



A) 56 m²

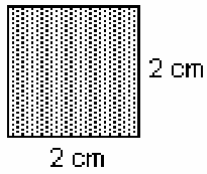
B) 160 m²

C) 48 m²

D) 120 m²

Answer: D

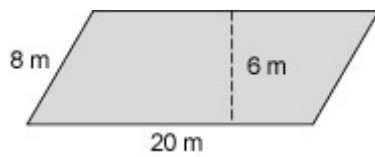
251) What is the name of the given shape?



- A) circle B) rectangle C) parallelogram D) square

Answer: D

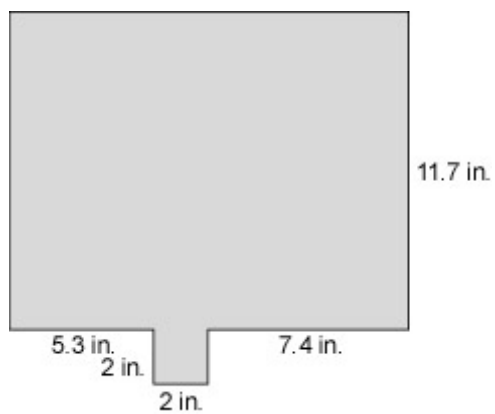
252) Find the perimeter of the given parallelogram:



- A) 52 m B) 56 m C) 48 m D) 160 m

Answer: B

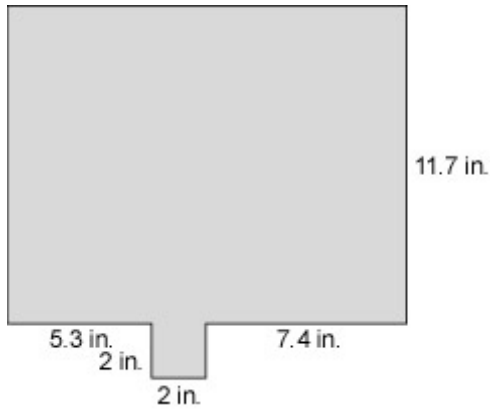
253) Find the perimeter of the given shape:



- A) 56.8 B) 47.5 C) 48.8 D) 45.5

Answer: A

254) Find the area of the given figure.



A) 171.99 in^2

B) 148.59 in^2

C) 152.59 in^2

D) 175.99 in^2

Answer: D

255) Which letter represents the height of the parallelogram?



A) a

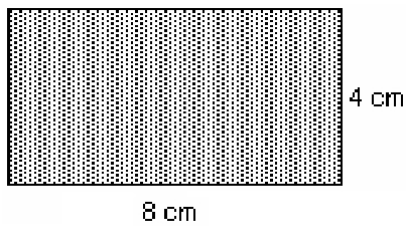
B) b

C) c

D) none of the above

Answer: C

256) Find the perimeter and the area of the given figure. Use the formulas $P = 2(l + w)$ and $A = lw$.



A) 24 cm; 32 cm^2

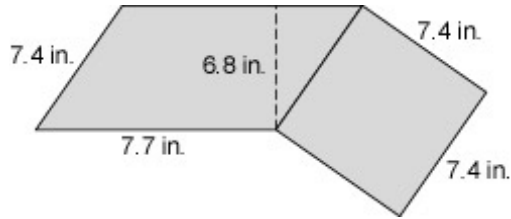
B) 32 cm; 24 cm^2

C) 24 cm^2 ; 32 cm

D) 12 cm; 32 cm^2

Answer: A

257) Determine the perimeter of the given drawing.



A) 52.7 in.

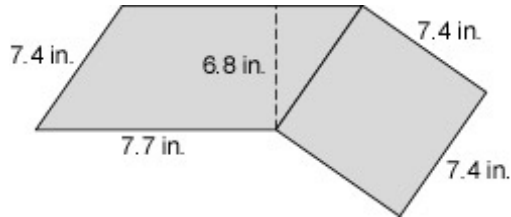
B) 45.3 in.

C) 38.5 in.

D) 45 in.

Answer: D

258) Determine the area of the given figure.



A) 107.12 in²

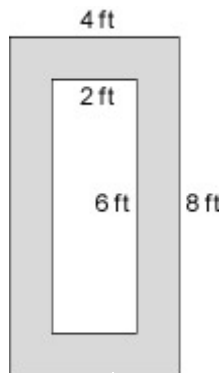
B) 106.3 in²

C) 111.74 in²

D) 102.68 in²

Answer: A

259) Find the area of the shaded region.



A) 12 ft²

B) 24 ft²

C) 32 ft²

D) 20 ft²

Answer: D

260) A sandbox is a square of width 5 feet. How many square feet does the sandbox cover?

A) 20 ft²

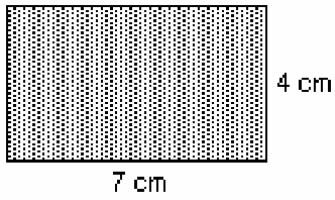
B) 5 ft²

C) 10 ft²

D) 25 ft²

Answer: D

261) What is the name of the given shape?



A) square

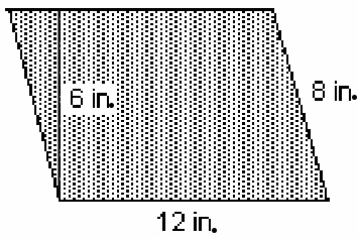
B) rectangle

C) circle

D) parallelogram

Answer: B

262) Find the perimeter and the area of the given figure. Use the formulas $P = 2(b + s)$ and $A = bh$.



A) 72 in.; 40 in²

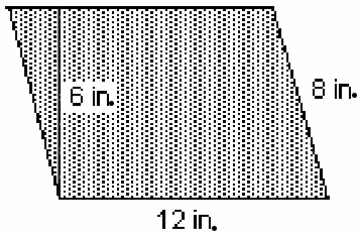
B) 36 in.; 72 in²

C) 40 in.; 96 in²

D) 40 in.; 72 in²

Answer: D

263) What is the name of the given shape?



A) square

B) parallelogram

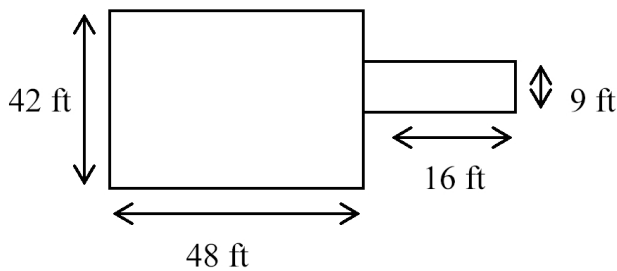
C) rectangle

D) circle

Answer: B

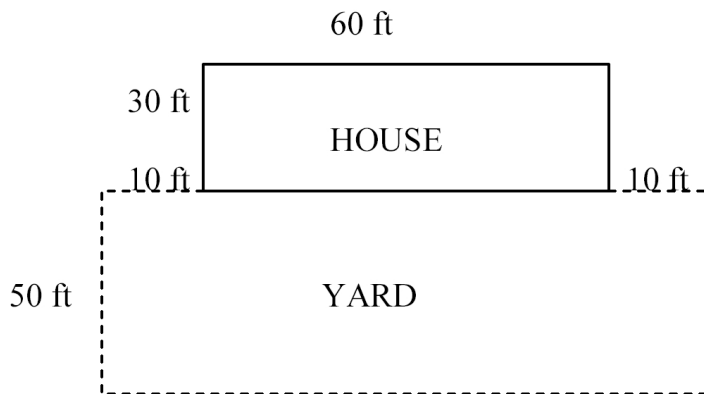
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 264) A restaurant owner needs to buy linoleum tile for the main dining room and the entrance hall. The measurements are below. How many square yards of tile should he buy?



Answer: 240 yd²

- 265) Gary King is putting in a chain link fence around his backyard. It will extend 10 feet on either side of his house, down the side yard and across the back. How much fencing should he buy?



Answer: 200 ft

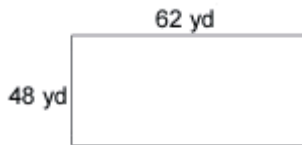
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 266) A rectangle box has a base of 12 inches by 18 inches. What would the length of the base of a second box be to have the same area if the width is 9 inches?

A) 72 inches B) 54 inches C) 24 inches D) 21 inches

Answer: C

267) Find the area of the given rectangle:



A) 2,976 square yards

B) 220 square yards

C) 110 square yards

D) 2,400 square yards

Answer: A

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

268) Explain what is represented by the area and perimeter of a shape.

Answer: The area represents the space or surface inside the boundaries of the shape. The perimeter represents the distance around the shape.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

269) Explain the difference in perimeter and area of a rectangle in terms of arithmetic operations.

Answer: Answers will vary.

270) Describe several tasks or occupations that would require you to find the area of a shape.

Answer: Answers will vary.

271) A rhombus is a shape that has the same relationship to a parallelogram that a square has to a rectangle. Draw a rhombus and determine a formula that would find the area and the perimeter of a rhombus.

Answer: Answers will vary.

272) Describe several tasks or occupations that would require you to find the perimeter of a shape.

Answer: Answers will vary

273) Describe the similarities and differences between a rectangle, a square and a parallelogram.

Answer: Answers will vary

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 274) As James bought his textbooks for classes one semester, he estimated the cost to the nearest ten dollars. He knew he could cover the cost up to \$315. His math book cost \$68.41, biology text was \$105.35, literature text cost \$72.49, and the AutoCAD text was \$59.91. What rounded sum did James determine? Could he buy all his books at this time?

A) \$310; yes B) \$306.16; yes C) \$320; no D) \$305; yes

Answer: A

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 275) A machinist is producing the prototype of a person's invention. One part is 3.45 cm long with a tolerance of ± 0.005 cm. What is the smallest and largest length the part can be?

Answer: Smallest: 3.445 cm, Largest: 3.455 cm

- 276) A machinist is producing the prototype of a person's invention. One part is 6.72 cm long with a tolerance of ± 0.005 cm. What is the smallest and largest length the part can be?

Answer: Smallest: 6.715 cm, Largest: 6.725 cm

- 277) An automotive mechanic earns \$12.60 an hour with time-and-a-half for any time over 40 hours a week. One week he works 46 hours. What is his gross pay?

Answer: \$617.40

- 278) A computer repair person earns \$25.80 an hour with time-and-a-half for any time over 40 hours a week. One week she works 52 hours. What is her gross pay?

Answer: \$1,496.40

- 279) A graphics design company has been hired to print the posters for an upcoming rock concert. The poster size is 22 inches by 28 inches and will have a 3-inch border around all sides. What is the area of the printable space?

(Note: Area = Length $\times$ Width)

Answer: 352 in²

- 280) A graphics design company has been hired to print the posters for an upcoming festival. The poster size is 11 inches by 14 inches and will have a 2-inch border around all sides. What is the area of the printable space?

(Note: Area = Length $\times$ Width)

Answer: 70 in²

- 281) A car owner took three trips. On the first, he traveled 252.17 miles using 8.35 gallons of gas; the second he traveled 416.13 miles using 14.55 gallons of gas; on the third leg he traveled 319.19 miles using 10.82 gallons of gas. What was his average miles per gallon? Round to tenths.

Answer: 29.3 mpg

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

282) A drapery company needs 412 yards of material to complete an order. They have 210 yards in stock. How many more yards do they need to order to finish the order and have 50 yards left over?

- A) 462 yards B) 572 yards C) 252 yards D) 202 yards

Answer: C

283) A pressure gauge in a cannery reads 42.057 psi (pounds per square inch). If the desired reading is 42.05 psi with a tolerance of ± 0.004 psi, is the gauge within the tolerance bounds? What is the tolerance range?

- A) Yes; ± 42.054 psi B) Yes; 42.054 psi and 42.046 psi
C) No; ± 42.046 psi D) No; 42.054 psi and 42.046 psi

Answer: D

284) Elvira purchases 18 Halloween masks for a party. If her total bill was \$107.10, estimate the average cost of each mask by rounding to one nonzero digit. Find the exact cost.

- A) \$5.50; \$5.95 B) \$5; \$5.95
C) \$2,000; \$1,927.80 D) \$10; \$5.95

Answer: B

285) A route from Albany, New York to Bangor, Maine takes a salesman four days. He keeps an accurate record of each leg of his journey. His record shows: 34, 57, 48, 64, 35, 28, 21, 52, 26, and 52. How far is it from Albany to Bangor for the salesman?

- A) 41.7 miles B) 417 miles C) 420 miles D) 365 miles

Answer: B

286) A chain saw shop wants to buy bulk chain. Each saw blade requires 48 inches of chain. The shop wishes to keep enough linkage in stock to make 32 chains. How much bulk chain should they purchase? First round to one nonzero digit and estimate. Find the exact amount.

- A) 1,500 inches; 1,536 inches B) 80 inches; 80 inches
C) 2,000 inches; 1,536 inches D) 1,500 inches; 1,500 inches

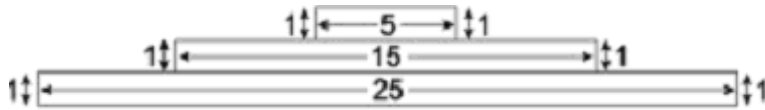
Answer: A

287) A waitress picks up the bill and money left by a customer. If the customer left \$35.00 and the bill was \$29.54, how much was the tip for the waitress?

- A) \$4.46 B) \$6.46 C) \$5.00 D) \$5.46

Answer: D

288) Find the perimeter of the given figure if it is measured in feet:



- A) 56 feet B) 45 feet C) 33 feet D) 51 feet

Answer: A

289) South Dakota is approximately the shape of a rectangle. If it averages 202 miles in width and has an area of 77,047 square miles, what is the average length of the state in whole numbers?

- A) 77,249 miles B) 381 miles
C) 381.4 miles D) 15,563,494 miles

Answer: B

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

290) A car owner took two trips. On the first, he traveled 390.6 miles using 12.4 gallons of gas; the second he traveled 354.2 miles using 11.5 gallons of gas. What was his average miles per gallon? Round to tenths.

Answer: 31.2 mpg

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

291) For crowd control, the facilities crew placed a rope around a basketball court. The area roped off is 120 feet by 60 feet. Posts are placed every 20 feet to hold the rope. How many posts are needed?

- A) 20 posts B) 18 posts C) 16 posts D) 14 posts

Answer: B

292) A car with a 5-speed transmission can get 32 miles to the gallon in city driving. It can also get 48 miles to the gallon when doing long distance traveling. How many gallons would the owner save if she had traveled 9,216 miles long distance rather than traveling the same distance just in the city?

- A) 288 gallons B) 192 gallons C) 576 gallons D) 96 gallons

Answer: D

293) An average person burns off 100 calories if they bicycle for 15 minutes at 9 mph. There are approximately 3,500 calories in one pound. Harry signed up at the local fitness center and spent 45 minutes on the stationary bicycle pedaling at a steady rate of 9 mph. How many calories did he burn? Did he use up a pound?

- A) 4,500 calories; yes B) 900 calories; no
C) 300 calories; no D) 3,200 calories; no

Answer: C

294) Mt. Angel's beverage company produces 28,800 cans of Pepsi each day. How many 12-can packs can they produce if they use enough of the cans to make 100 6-can packs before packaging the 12-can packs?

A) 2,392

B) 2,300

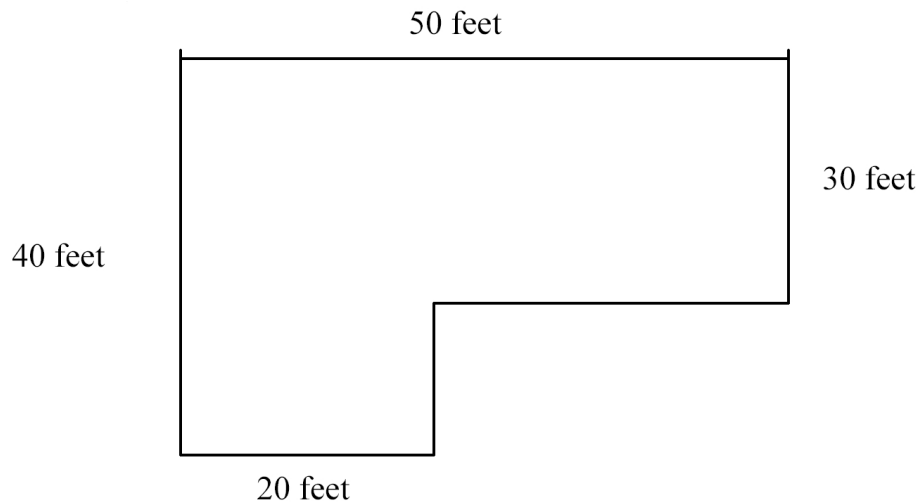
C) 2,400

D) 2,350

Answer: D

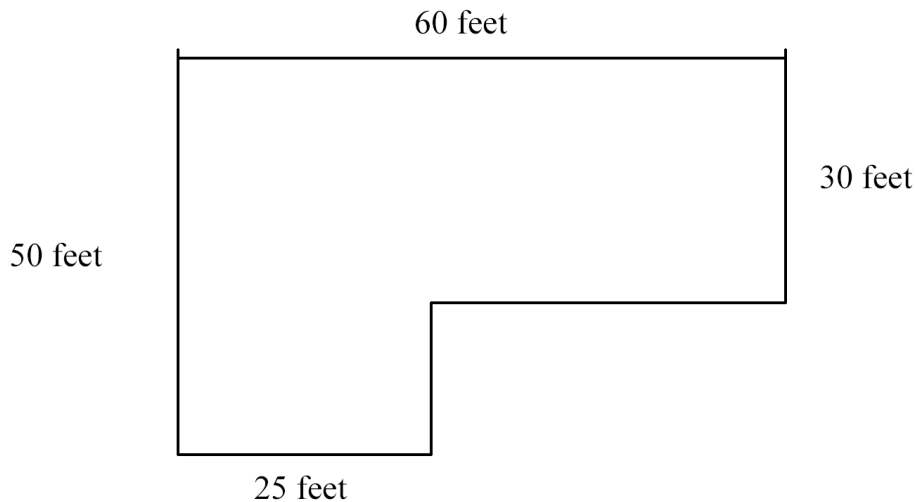
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

295) A construction company has been hired to put guttering around the roof of the house pictured. The roof is a hipped roof that requires guttering on all sides. The company charges \$4.68 per foot for labor and materials. What will be the cost of the job?



Answer: \$842.40

- 296) A construction company has been hired to put guttering around the roof of the house pictured. The roof is a hipped roof that requires guttering on all sides. The company charges \$5.50 per foot for labor and materials. What will be the cost of the job?



Answer: \$1,210

- 297) A computer repair shop bought sound cards three times during the year. The first time they bought 25 cards at \$4.68 each. The second purchase was for 20 cards that cost \$4.75 each. The last purchase of the year was for 16 cards at \$4.80 each. What was the average cost of one sound card?

Answer: \$4.73

- 298) A steel pipe that is 7.25 cm long is to be cut into pieces measuring 1.15 cm. If there is 0.2 cm wasted with each cut, how many pieces will there be?

Answer: 5

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 299) The local state fair had a building that housed both chickens and pigmy goats. One of the 4-H participants decided to create a puzzle for the others. He counted 224 legs belonging to 72 animals. How many pigmy goats and how many chickens were there in the building?

- A) 50 pigmy goats and 24 chickens
B) 40 pigmy goats and 32 chickens
C) 56 pigmy goats and 4 chickens
D) 32 pigmy goats and 32 chickens

Answer: B

- 300) Chucka earns \$36,428 per year. She is paid by the week. If \$13,114.08 cents is removed for taxes and social security during the year, how much is her weekly take-home check including her paid vacation weeks?

- A) \$466.28
B) \$952.73
C) \$448.34
D) \$700.54

Answer: C

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

301) Because calculators provide a tool that can accurately determine computations, discuss why you need to be able to do basic arithmetic operations without using one.

Answer: Answers will vary.