

Section 1.2: Fractions

1. Find the prime factorization of the number.

90

- a. $3 \cdot 3 \cdot 2 \cdot 5$
- b. $9 \cdot 2 \cdot 5$
- c. $3 \cdot 2 \cdot 5$
- d. $3 \cdot 2 \cdot 5 \cdot 5$
- e. $3 \cdot 3 \cdot 2$

ANSWER:

a

2. Find the prime factorization of the number.

72

- a. $4^2 \cdot 3^2$
- b. $5^2 \cdot 2^5 \cdot 3^2$
- c. $2^3 \cdot 3^2$
- d. $2^2 \cdot 3^3$
- e. $2^3 \cdot 3^3$

ANSWER:

c

3. Find the prime factorization of the number.

968

- a. $2^2 \cdot 3^3$
- b. $4^2 \cdot 3^2$
- c. $2^3 \cdot 5$
- d. $2^3 \cdot 9$
- e. $2^3 \cdot 11^2$

ANSWER:

e

4. Find the prime factored form of the number.

357

- a. $3 \cdot 7 \cdot 17$
- b. $51 \cdot 17$
- c. $3 \cdot 7 \cdot 7$

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- d. $21 \cdot 7$
 e. $3 \cdot 7 \cdot 19$

ANSWER:

a

5. Find the prime factored form of the number.

175

- a. $5^2 \cdot 7$
 b. $5^3 \cdot 7$
 c. $25 \cdot 7$
 d. $25^2 \cdot 7$

ANSWER:

a

6. If a natural number is written as the product of prime factors, we say that it is written in _____ form.

- a. prime-standard
 b. prime-factored
 c. prime-polynomial
 d. prime-number

ANSWER:

b

7. Use the divisibility rules to help determine the prime factorization of the following number.

34

- a. $3 \cdot 17$
 b. $4 \cdot 17$
 c. $2 \cdot 16$
 d. $2 \cdot 17$
 e. $1 \cdot 34$

ANSWER:

d

8. Find the prime factorization of the number.

140

- a. $2 \cdot 2 \cdot 5 \cdot 7$
 b. $4 \cdot 5 \cdot 7$
 c. $2 \cdot 5 \cdot 7$
 d. $2 \cdot 5 \cdot 7 \cdot 7$
 e. $2 \cdot 2 \cdot 5$

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ANSWER:

a

9. Find the prime factorization of the number.

432

- a. $4^3 \cdot 3^3$
- b. $5^2 \cdot 2^6 \cdot 3^3$
- c. $2^4 \cdot 3^3$
- d. $2^3 \cdot 3^4$
- e. $2^4 \cdot 3^4$

ANSWER:

c

10. Find the prime factorization of the number.

968

- a. $2^2 \cdot 3^3$
- b. $4^4 \cdot 3^2$
- c. $2^3 \cdot 5$
- d. $2^3 \cdot 9$
- e. $2^3 \cdot 11^2$

ANSWER:

e

11. The denominators for three fractions, in prime-factored form, are $3 \cdot 7$, $2 \cdot 3$, and $3 \cdot 3$. Find the LCD for the fractions.

- a. 126
- b. 84
- c. 42
- d. 7
- e. 21

ANSWER:

a

12. Find the prime factorization of the number.

525

- a. $5 \cdot 5 \cdot 3 \cdot 7$
- b. $25 \cdot 3 \cdot 7$
- c. $5 \cdot 3 \cdot 7$

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- d. $5 \cdot 3 \cdot 7 \cdot 7$
e. $5 \cdot 5 \cdot 3$

ANSWER:

a

13. Write the number as a fraction.

-19

- a. $\frac{19}{1}$
b. $-\frac{1}{19}$
c. $\frac{1}{19}$
d. $-\frac{19}{19}$
e. $-\frac{19}{1}$

ANSWER:

e

14. What is the numerator of the following fraction?

$\frac{5}{11}$

- a. 5
b. $\frac{11}{5}$
c. 11
d. $\frac{5}{11}$
e. 0.455

ANSWER:

a

15. Write the number as a decimal.

Forty-eight thousandths

- a. 0.0048
b. 0.048
c. 48.000
d. 0.48

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e. 4.8

ANSWER:

b

16. The following fractions are equivalent.

$$\frac{5}{-7} \text{ and } \frac{-5}{7}$$

- a. True
b. False

ANSWER:

True

17. Find the quotient.

$$\frac{1}{5} \div \frac{11}{3}$$

- a. $\frac{2}{29}$
b. $\frac{3}{55}$
c. $\frac{1}{12}$
d. $\frac{3}{29}$
e. $\frac{1}{7}$

ANSWER:

b

18. Find the quotient.

$$\frac{1}{5} \div \frac{13}{7}$$

- a. $\frac{2}{17}$
b. $\frac{7}{65}$
c. $\frac{9}{70}$
d. $\frac{5}{34}$

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e. $\frac{2}{11}$

ANSWER:

b

19. Perform the indicated operations involving rational numbers. Express the final answer in reduced form.

$\frac{2}{9} \cdot \frac{6}{19} \div \frac{2}{27}$

- a. $\frac{1}{19}$
- b. $\frac{1}{19}$
- c. $\frac{17}{18}$
- d. $\frac{1}{18}$
- e. $\frac{18}{19}$

ANSWER:

e

20. Write the equivalent of the fraction using a denominator of 70.

$\frac{4}{7}$

- a. $\frac{1}{70}$
- b. $\frac{70}{40}$
- c. $\frac{40}{70}$
- d. $\frac{70}{7}$
- e. $\frac{4}{70}$

ANSWER:

c

21. Write the number as a fraction.

-20

- a. $\frac{20}{1}$
- b. $-\frac{1}{20}$

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c. $\frac{1}{20}$

d. $-\frac{20}{20}$

e. $-\frac{20}{1}$

ANSWER:

e

22. Write the equivalent of the fraction using a denominator of 77.

$\frac{4}{11}$

a. $\frac{1}{77}$

b. $\frac{77}{28}$

c. $\frac{28}{77}$

d. $\frac{77}{11}$

e. $\frac{4}{77}$

ANSWER:

c

23. The following fractions are equivalent.

$\frac{5}{-13}$ and $\frac{-5}{13}$

- a. True
- b. False

ANSWER:

True

24. Write the equivalent of this fraction using a denominator of 66.

$\frac{4}{11}$

a. $\frac{66}{24}$

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- b. $\frac{66}{11}$
- c. $\frac{24}{66}$
- d. $\frac{4}{66}$
- e. $\frac{1}{66}$

ANSWER:

c

25. Write the equivalent of the fraction using a denominator of 22.

$$\frac{4}{11}$$

- a. $\frac{22}{11}$
- b. $\frac{1}{22}$
- c. $\frac{22}{8}$
- d. $\frac{8}{22}$
- e. $\frac{4}{22}$

ANSWER:

d

26. Write the number as a fraction with the indicated denominator.

11 as ninths

- a. $\frac{1}{9}$
- b. $\frac{99}{9}$
- c. $\frac{11}{9}$
- d. $\frac{9}{99}$

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e. $\frac{9}{11}$

ANSWER:

b

27. Write the equivalent of the fraction using a denominator of 26.

$\frac{4}{13}$

a. $\frac{26}{13}$

b. $\frac{1}{26}$

c. $\frac{26}{8}$

d. $\frac{8}{26}$

e. $\frac{4}{26}$

ANSWER:

d

28. Write the number as a fraction with the indicated denominator.

2 as ninths

a. $\frac{1}{9}$

b. $\frac{18}{9}$

c. $\frac{2}{9}$

d. $\frac{9}{18}$

e. $\frac{9}{2}$

ANSWER:

b

29. Perform the indicated operations involving rational numbers. Express the final answer in reduced form.

$\frac{2}{9} \cdot \frac{6}{13} \div \frac{1}{9}$

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- a. $\frac{1}{13}$
- b. $\frac{1}{13}$
- c. $\frac{1}{14}$
- d. $\frac{12}{13}$
- e. $\frac{13}{14}$

ANSWER:

d

30. Perform the addition. Simplify the result when possible.

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

- a. $\frac{4}{5}$
- b. $\frac{4}{3}$
- c. $\frac{4}{7}$
- d. $\frac{3}{4}$
- e. $\frac{4}{9}$

ANSWER:

b

31. Subtract as indicated, and express your answer in lowest terms.

$$\frac{5}{8} - \frac{4}{5}$$

- a. $-\frac{7}{41}$
- b. $-\frac{7}{40}$
- c. $\frac{1}{5}$
- d. $\frac{7}{40}$

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e. $-\frac{8}{41}$

ANSWER:

b

32. Subtract the fractions below, and express the answer in its lowest terms.

$$\frac{3}{17} - \frac{1}{17}$$

a. $\frac{4}{17}$

b. $\frac{2}{34}$

c. $\frac{4}{34}$

d. $\frac{2}{17}$

e. $-\frac{2}{17}$

ANSWER:

d

33. Do the addition. Simplify the result when possible.

$$\frac{1}{8} + \frac{1}{32}$$

a. $\frac{5}{4}$

b. $\frac{2}{32}$

c. $\frac{5}{32}$

d. $\frac{5}{8}$

e. $\frac{7}{32}$

ANSWER:

c

34. Find the sum.

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$$\frac{14}{13} + 7$$

- a. $8\frac{1}{13}$
- b. $7\frac{1}{13}$
- c. $7\frac{2}{13}$
- d. $8\frac{2}{13}$
- e. $91\frac{1}{13}$

ANSWER:

a

35. Perform the addition. Simplify the result when possible.

$$\frac{4}{7} + \frac{4}{7}$$

- a. $\frac{8}{9}$
- b. $\frac{8}{7}$
- c. $\frac{8}{5}$
- d. $\frac{7}{8}$
- e. $\frac{8}{49}$

ANSWER:

b

36. Perform the addition. Simplify the result when possible.

$$2\frac{1}{12} + \frac{5}{12}$$

- a. $2\frac{1}{5}$

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b. $2\frac{5}{3}$

c. $2\frac{1}{2}$

d. $2\frac{1}{10}$

e. $2\frac{1}{6}$

ANSWER:

c

37. The number above the bar in a fraction is called the _____.

- a. denominator
- b. reciprocal
- c. divisor
- d. integer
- e. numerator

ANSWER:

e

38. Perform the multiplication. Simplify the result when possible.

$$\frac{7}{36} \cdot \frac{45}{7}$$

a. $\frac{7}{6}$

b. $\frac{5}{4}$

c. $\frac{7}{8}$

d. $\frac{8}{7}$

e. $\frac{6}{5}$

ANSWER:

b

39. Find the difference.

$$64\frac{3}{5} - 52\frac{1}{11}$$

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- a. $12\frac{28}{55}$
 b. $13\frac{28}{11}$
 c. $12\frac{38}{55}$
 d. $13\frac{28}{55}$
 e. $12\frac{8}{55}$

ANSWER:

a

40. Find the difference.

$$15\frac{3}{11} - 13\frac{2}{33}$$

- a. $2\frac{5}{11}$
 b. $1\frac{1}{3}$
 c. $2\frac{7}{33}$
 d. $28\frac{7}{33}$
 e. $2\frac{1}{3}$

ANSWER:

c

41. Find the difference.

$$196\frac{2}{7} - 117\frac{1}{21}$$

- a. $196\frac{13}{21}$
 b. $313\frac{1}{3}$
 c. $313\frac{5}{21}$
 d. $79\frac{5}{21}$

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e. $79\frac{1}{3}$

ANSWER:

d

42. Subtract the following mixed numbers.

$$\begin{array}{r} 9\frac{7}{8} \\ - 8\frac{2}{3} \\ \hline \end{array}$$

- a. $1\frac{5}{24}$
 b. $\frac{5}{24}$
 c. $1\frac{5}{24}$
 d. 2
 e. $1\frac{7}{12}$

ANSWER:

a

43. Subtract the following mixed numbers.

$$\begin{array}{r} 9\frac{5}{10} \\ - 7\frac{1}{3} \\ \hline \end{array}$$

- a. $2\frac{1}{6}$
 b. $\frac{1}{6}$
 c. $2\frac{2}{15}$
 d. $-2\frac{1}{6}$
 e. 3

ANSWER:

a

44. The following problem involves the concept of borrowing. (Subtract.)

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$$10 - 1\frac{6}{17}$$

- a. $8\frac{11}{17}$
- b. $-\frac{11}{17}$
- c. $9\frac{11}{17}$
- d. $8\frac{10}{17}$

ANSWER:

a

45. Find the difference.

$$18\frac{3}{6} - 13\frac{1}{42}$$

- a. $5\frac{2}{3}$
- b. $6\frac{11}{21}$
- c. $5\frac{10}{21}$
- d. $31\frac{10}{21}$
- e. $5\frac{11}{21}$

ANSWER:

c

46. Find the difference.

$$233\frac{2}{11} - 102\frac{1}{121}$$

- a. $233\frac{45}{121}$
- b. $131\frac{23}{121}$

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c. $335\frac{21}{121}$

d. $335\frac{23}{121}$

e. $131\frac{21}{121}$

ANSWER:

e

47. Find the difference.

$$76\frac{2}{7} - 36\frac{1}{11}$$

a. $40\frac{29}{77}$

b. $41\frac{2}{11}$

c. $40\frac{9}{77}$

d. $40\frac{15}{77}$

e. $41\frac{15}{77}$

ANSWER:

d

48. Find the sum.

$$5\frac{2}{5} + 7\frac{1}{7}$$

a. $2\frac{1}{7}$

b. $35\frac{9}{35}$

c. $12\frac{1}{7}$

d. $2\frac{19}{35}$

e. $12\frac{19}{35}$

ANSWER:

e

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49. Find the sum.

$$12\frac{3}{13} + 17\frac{1}{13}$$

- a. $29\frac{4}{39}$
- b. $29\frac{5}{13}$
- c. $29\frac{4}{13}$
- d. $12\frac{4}{13}$
- e. $29\frac{3}{13}$

ANSWER:

c

50. Find the sum.

$$3\frac{1}{11} + 7\frac{2}{5}$$

- a. $10\frac{27}{55}$
- b. $4\frac{27}{55}$
- c. $4\frac{2}{5}$
- d. $21\frac{-17}{55}$
- e. $10\frac{2}{5}$

ANSWER:

a

51. Find the sum.

$$35\frac{3}{5} + 76\frac{2}{7}$$

- a. $112\frac{3}{35}$

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- b. $111\frac{2}{35}$
- c. $111\frac{31}{35}$
- d. $111\frac{3}{35}$
- e. $112\frac{31}{35}$

ANSWER:

c

52. Find the sum and simplify if necessary.

$$6\frac{3}{5} + 1\frac{1}{10} + 3\frac{1}{15}$$

- a. $11\frac{23}{25}$
- b. $11\frac{4}{5}$
- c. $9\frac{23}{30}$
- d. $12\frac{4}{5}$
- e. $10\frac{23}{30}$

ANSWER:

e

53. Write the improper fraction as a mixed number.

$$\frac{44}{5}$$

- a. $8\frac{5}{8}$
- b. $4\frac{5}{8}$
- c. $8\frac{4}{5}$
- d. $8\frac{1}{5}$

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e. $8\frac{3}{5}$

ANSWER:

c

54. Write the mixed number as an improper fraction.

$2\frac{2}{3}$

- a. $\frac{2}{3}$
- b. $\frac{2}{3}$
- c. $\frac{3}{2}$
- d. $\frac{8}{3}$
- e. $\frac{4}{3}$

ANSWER:

d

55. Divide.

$3\frac{1}{5} \div 2\frac{1}{2}$

- a. $\frac{80}{10}$
- b. $\frac{32}{20}$
- c. $\frac{30}{25}$
- d. $\frac{30}{20}$
- e. $\frac{32}{25}$

ANSWER:

e

56. Divide.

$3 \div 7\frac{1}{3}$

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- a. $\frac{1}{7}$
- b. $\frac{9}{22}$
- c. $\frac{3}{22}$
- d. $\frac{3}{23}$
- e. $\frac{3}{7}$

ANSWER:

b

57. Multiply.

$$2\frac{1}{3} \cdot 3\frac{1}{5}$$

- a. $3\frac{11}{15}$
- b. $6\frac{2}{5}$
- c. $7\frac{7}{15}$
- d. $1\frac{13}{15}$
- e. $\frac{2}{5}$

ANSWER:

c

58. Find the difference.

$$311\frac{2}{11} - 137\frac{1}{77}$$

- a. $311\frac{29}{77}$
- b. $448\frac{15}{77}$

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c. $448\frac{13}{77}$

d. $174\frac{13}{77}$

e. $174\frac{15}{77}$

ANSWER:

d

59. Find the difference.

$$63\frac{3}{5} - 41\frac{2}{7}$$

a. $22\frac{11}{35}$

b. $23\frac{11}{7}$

c. $22\frac{31}{35}$

d. $23\frac{11}{35}$

e. $22\frac{8}{35}$

ANSWER:

a

60. Find the difference.

$$15\frac{3}{7} - 13\frac{2}{49}$$

a. $2\frac{5}{7}$

b. $1\frac{23}{49}$

c. $2\frac{19}{49}$

d. $28\frac{19}{49}$

e. $2\frac{23}{49}$

ANSWER:

c

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61. Find the difference.

$$67\frac{2}{5} - 51\frac{1}{7}$$

- a. $16\frac{19}{35}$
- b. $17\frac{2}{7}$
- c. $16\frac{7}{35}$
- d. $16\frac{9}{35}$
- e. $17\frac{9}{35}$

ANSWER:

d

62. Find the difference.

$$15\frac{3}{6} - 4\frac{1}{42}$$

- a. $11\frac{2}{3}$
- b. $10\frac{11}{21}$
- c. $11\frac{10}{21}$
- d. $19\frac{10}{21}$
- e. $11\frac{11}{21}$

ANSWER:

c

63. Find the difference.

$$369\frac{2}{7} - 138\frac{1}{21}$$

- a. $369\frac{13}{21}$

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b. $231\frac{1}{3}$

c. $507\frac{5}{21}$

d. $507\frac{1}{3}$

e. $231\frac{5}{21}$

ANSWER:

e

64. Find the sum and simplify if necessary.

$$8\frac{1}{13} + 8\frac{3}{7}$$

ANSWER:

$$16\frac{46}{91}$$

65. Find the sum and simplify if necessary.

$$37\frac{1}{11} + 72\frac{2}{7}$$

ANSWER:

$$109\frac{29}{77}$$

66. Find the sum and simplify if necessary.

$$9\frac{2}{5} + 2\frac{1}{10} + 7\frac{3}{15}$$

ANSWER:

$$18\frac{7}{10}$$