LESSON **5.1**

Name _____ Date _____

Practice

For use with pages 219–224

Show that the number is rational by writing it as a quotient of two integers.

1. 273 **2.** -86 **3.** $6\frac{9}{10}$ **4.** $-9\frac{1}{12}$

5. 3400 **6.** -555 **7.** $-2\frac{7}{20}$ **8.** $4\frac{11}{14}$

Write the fraction or mixed number as a decimal.

9. $\frac{8}{25}$ **10.** $-\frac{5}{18}$ **11.** $-3\frac{2}{11}$ **12.** $8\frac{3}{20}$

13. $\frac{34}{3}$ **14.** $-\frac{29}{4}$ **15.** $6\frac{37}{100}$ **16.** $-2\frac{9}{40}$

17. $-\frac{7}{18}$ **18.** $\frac{39}{26}$ **19.** $5\frac{14}{15}$ **20.** $-10\frac{7}{36}$

Write the decimal as a fraction or mixed number.

21. 0.65 **22.** 0.04 **23.** -5.28 **24.** 14.005

25. $-8.\overline{4}$ **26.** $0.\overline{16}$ **27.** $-0.1\overline{3}$ **28.** $3.7\overline{6}$

LESSON 5.1 Continued

Name _____ Date _____

Practice

For use with pages 219–224

Order the numbers from least to greatest.

29. $-\frac{6}{11}, -0.55, -0.\overline{5}, -\frac{27}{50}$

30. $0.69, \frac{13}{20}, \frac{1}{2}, 0.6, \frac{17}{25}$

31. $-1.5, -\frac{7}{4}, -\frac{8}{5}, -1.7, -0.\overline{8}, -\frac{11}{6}$

32. $4.41, \frac{43}{10}, 4.1, 4.02, \frac{17}{4}, 4\frac{1}{5}$

33. On Monday, a deli takes 250 orders. Of these, 144 are carry-out orders. On Tuesday, it takes 220 orders. Of these, 125 are carry-out orders. Which day has the greater fraction of carry-out orders?

In Exercises 34–36, use the table that shows the results of a survey about the kind of fruit that students like best.

Favorite fruit	Orange	Banana	Pear	Strawberry	Apple
Portion of students	$\frac{7}{25}$	$\frac{2}{5}$	$\frac{7}{100}$	$\frac{1}{12}$	$\frac{1}{6}$

34. Write each fraction as a decimal. Tell whether the decimal form of the fraction is repeating or terminating.

35. Which fruit was chosen most often?

36. Is it easier to compare the survey results in fraction form or decimal form? Explain.

LESSON 5.2

Name _____ Date _____

Practice

For use with pages 225–229

Find the sum or difference.

1. $\frac{12}{13} + \frac{12}{13}$

2. $\frac{1}{10} - \frac{9}{10}$

3. $-\frac{13}{32} + \left(-\frac{13}{32}\right)$

4. $\frac{34}{43} - \left(-\frac{12}{43}\right)$

5. $-\frac{11}{30} - \left(-\frac{7}{30}\right)$

6. $-\frac{17}{50} + \frac{19}{50}$

7. $\frac{43}{100} - \left(-\frac{17}{100}\right)$

8. $\frac{9}{80} - \frac{51}{80}$

9. $8\frac{7}{10} + 3\frac{9}{10}$

10. $5\frac{1}{7} - 6\frac{2}{7}$

11. $3\frac{1}{15} - 7\frac{11}{15}$

12. $1\frac{2}{9} - 12\frac{7}{9}$

13. $24\frac{17}{22} - 16\frac{5}{22}$

14. $\frac{4}{5} - \left(-3\frac{4}{5}\right)$

15. $20\frac{5}{6} + \left(-18\frac{5}{6}\right)$

16. $-4\frac{11}{16} - \frac{15}{16}$

Simplify the expression.

17. $\frac{7x}{20} + \frac{17x}{20}$

18. $\frac{19x}{28} + \frac{x}{28}$

19. $-\frac{9}{14x} + \frac{17}{14x}$

20. $-\frac{4x}{45} - \frac{41x}{45}$

21. $\frac{4}{x} - \frac{11}{x}$

22. $\frac{7}{24x} + \left(-\frac{5}{24x}\right)$

23. $\frac{11}{12x} - \left(-\frac{5}{12x}\right)$

24. $\frac{8}{5x} + \frac{3}{5x} - \left(-\frac{4}{5x}\right)$

LESSON 5.2 Continued

Name _____ Date _____

Practice

For use with pages 225–229

Evaluate the expression.

25. $\frac{1}{12} + \frac{5}{12} + \frac{11}{12}$

26. $\frac{5}{8} + \frac{7}{8} + \left(-\frac{3}{8}\right)$

27. $-\frac{9}{14} + \frac{3}{14} + \frac{5}{14}$

28. $\frac{4}{7} - \left(-\frac{2}{7}\right) + \frac{5}{7}$

29. $-\frac{7}{9} - \frac{4}{9} - \frac{2}{9}$

30. $-\frac{9}{20} + \frac{11}{20} - \left(-\frac{3}{20}\right)$

31. You have a piece of wood that is $7\frac{3}{4}$ feet long. You want to cut one piece that is $3\frac{7}{12}$ feet long and one piece that is $4\frac{1}{12}$ feet long. Do you have enough wood? Explain.

32. You run the 60-yard dash in $7\frac{9}{20}$ seconds. Your friend runs it in $6\frac{19}{20}$ seconds. How much faster is your friend's time?

33. Three puppies weigh $1\frac{1}{16}$ pounds, $1\frac{3}{16}$ pounds, and $\frac{15}{16}$ pound. You are carrying all three in a basket. Find the total weight of the three puppies.

LESSON **5.3**

Name _____ Date _____

Practice

For use with pages 230–235

Find the sum or difference.

1. $\frac{7}{12} + \frac{7}{10}$

2. $\frac{8}{9} + \left(-\frac{10}{21}\right)$

3. $-\frac{4}{17} + \frac{3}{5}$

4. $-\frac{3}{4} - \left(-\frac{5}{18}\right)$

5. $-\frac{1}{6} - \frac{9}{22}$

6. $-\frac{11}{12} - \frac{7}{15}$

7. $\frac{9}{20} - \frac{3}{16}$

8. $-\frac{5}{14} - \left(-\frac{9}{10}\right)$

Evaluate the expression when $x = \frac{5}{6}$ and $y = -\frac{3}{10}$.

9. $x + y$

10. $x - y$

11. $y - x$

12. $-y - x$

Find the sum or difference.

13. $5\frac{2}{7} + 7\frac{1}{6}$

14. $4\frac{5}{9} - 3\frac{2}{15}$

15. $-2\frac{8}{9} + 2\frac{5}{6}$

16. $-1\frac{5}{8} - \left(-2\frac{1}{5}\right)$

17. $1\frac{3}{4} - 4\frac{3}{14}$

18. $-6\frac{3}{25} + 3\frac{1}{2}$

19. $4\frac{9}{16} + \left(-3\frac{3}{10}\right)$

20. $-1\frac{2}{3} - \left(-1\frac{4}{11}\right)$

LESSON 5.3 Continued

Name _____ Date _____

Practice

For use with pages 230–235

Evaluate the expression when $x = -4\frac{1}{6}$ and $y = 1\frac{11}{16}$.

21. $x + y$ **22.** $x - y$ **23.** $y - x$ **24.** $-y - x$

Simplify the expression.

25. $-\frac{7x}{6} - \frac{x}{5}$ **26.** $\frac{x}{8} + \frac{5x}{3}$ **27.** $-\frac{2x}{9} + \frac{7x}{15}$ **28.** $\frac{4x}{7} - \frac{8x}{5}$

29. A baby weighs $7\frac{1}{8}$ pounds at birth. After four months, the baby weighs $15\frac{2}{3}$ pounds. How much weight did the baby gain?

30. In a bag of marbles, $\frac{2}{5}$ are red, $\frac{2}{7}$ are green, and the rest are blue. What fraction of the marbles are blue?

31. An ice sculpture originally has a height of $74\frac{1}{4}$ inches. The ice sculpture begins to melt and after several hours, the height has decreased by $8\frac{7}{16}$ inches. What is the current height of the sculpture?

LESSON **5.4**

Name _____ Date _____

Practice

For use with pages 237–241

Find the product.

1. $\frac{14}{25} \cdot \left(-\frac{3}{7}\right)$ **2.** $-\frac{20}{33} \cdot \left(-\frac{3}{11}\right)$ **3.** $51 \cdot \left(-\frac{5}{6}\right)$ **4.** $-\frac{7}{22} \cdot (-4)$

5. $2\frac{1}{12} \cdot \left(-10\frac{4}{5}\right)$ **6.** $-6\frac{3}{16} \cdot 5\frac{3}{7}$ **7.** $-1\frac{4}{27} \cdot \left(-3\frac{6}{11}\right)$ **8.** $-5\frac{1}{9} \cdot 2\frac{4}{13}$

Evaluate the expression.

9. $\frac{1}{4} \cdot \frac{8}{9} \cdot \left(-\frac{3}{5}\right)$ **10.** $\frac{4}{7} \cdot \left(-\frac{1}{8}\right) - \frac{3}{4}$ **11.** $\frac{7}{10} \cdot \frac{2}{9} + \frac{2}{3}$

Simplify the expression.

12. $\frac{20x}{9} \cdot \frac{36x^4}{5}$ **13.** $\frac{75x^4}{8} \cdot \frac{14x}{3}$ **14.** $-\frac{8x}{15} \cdot \left(-\frac{4x}{7}\right)$ **15.** $-\frac{x^6}{11} \cdot \left(-\frac{5x^8}{3}\right)$

16. $-\frac{13x^2}{10} \cdot \frac{6x^3}{5}$ **17.** $-\frac{x^6}{12} \cdot \left(-\frac{11x^5}{12}\right)$ **18.** $\frac{xy}{6} \cdot \frac{2x^3y}{3}$ **19.** $-\frac{x^2y}{4} \cdot \frac{10y^2}{3}$

LESSON **5.4** Continued

Name _____ Date _____

Practice

For use with pages 237–241

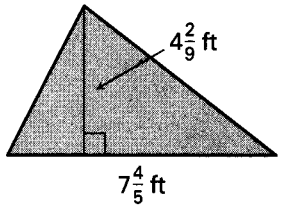
Evaluate the expression when $x = -\frac{2}{3}$, $y = \frac{9}{14}$ and $z = -\frac{23}{42}$.

20. $x \cdot y + z$ **21.** $y + x \cdot z$ **22.** $x \cdot y \cdot z$ **23.** $z - y \cdot x$

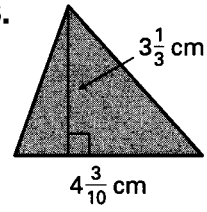
24. A shoreline is eroding at a rate of $2\frac{5}{18}$ feet each year. At this rate, how many feet will the shoreline erode in 8 years?

Find the area of the triangle.

25.



26.



27. In a class election, $\frac{5}{6}$ of the students have already voted. Of those students, $\frac{11}{17}$ have voted for Cindy. There are 102 students in the class. How many students voted for Cindy?

LESSON 5.5

Name _____ Date _____

Practice

For use with pages 242–246

State the reciprocal of the number.

1. $-\frac{24}{7}$ **2.** -264 **3.** 3.45 **4.** 0.01

Find the quotient.

5. $\frac{7}{20} \div \frac{5}{6}$ **6.** $-\frac{11}{24} \div \frac{7}{10}$ **7.** $\frac{8}{33} \div \left(-\frac{8}{9}\right)$ **8.** $-\frac{7}{5} \div \frac{19}{40}$

9. $8\frac{9}{20} \div 1\frac{7}{40}$ **10.** $10\frac{9}{14} \div \left(-3\frac{1}{2}\right)$ **11.** $\frac{16}{25} \div 2$ **12.** $48 \div \left(-\frac{4}{5}\right)$

13. $12\frac{3}{4} \div \left(-\frac{11}{12}\right)$ **14.** $5\frac{7}{11} \div 20$ **15.** $-24\frac{4}{9} \div \frac{8}{15}$ **16.** $-\frac{10}{33} \div 12$

17. $-\frac{18}{35} \div \left(-2\frac{4}{5}\right)$ **18.** $30 \div \left(-4\frac{1}{8}\right)$ **19.** $8\frac{7}{10} \div \frac{33}{50}$ **20.** $-\frac{15}{26} \div \left(-\frac{5}{14}\right)$

Evaluate the expression when $x = -2\frac{5}{8}$, $y = \frac{3}{10}$, and $z = 6\frac{3}{4}$.

21. $x \div y$ **22.** $y \div z$ **23.** $x \div z$ **24.** $z \div x \cdot y$

LESSON 5.5 Continued

Name _____ Date _____

Practice

For use with pages 242–246

Evaluate the expression.

25. $\frac{4}{9} \div \frac{1}{3} + \frac{7}{10}$

26. $\frac{5}{8} + \frac{5}{12} \div \frac{10}{21}$

27. $-\frac{3}{16} \div \left(\frac{3}{4} + \frac{5}{6}\right)$

28. $\frac{23}{41} \div \frac{25}{82} - \frac{3}{10}$

29. $6\frac{7}{8} \div 1\frac{5}{6} + \frac{11}{20}$

30. $\frac{6}{13} \div \frac{3}{5} \cdot \frac{3}{4}$

31. $-\frac{5}{6} \cdot \left(-\frac{9}{10}\right) \div \frac{17}{20}$

32. $\frac{7}{18} \cdot \left(-\frac{10}{21}\right) \div \frac{11}{9}$

33. $\frac{7}{24} \div \left(\frac{11}{12} - \frac{5}{9}\right)$

34. Evaluate the expression $x^2 \div y$ when $x = -\frac{5}{9}$ and $y = -10$.

35. Evaluate the expression $x^2 \div y^2$ when $x = \frac{7}{12}$ and $y = -\frac{7}{18}$.

36. You have a piece of wood that is $23\frac{3}{8}$ feet long. You need to cut pieces that are $1\frac{3}{8}$ feet long. How many pieces can you cut?

LESSON 5.6

Name _____ Date _____

Practice

For use with pages 247–252

Solve the equation. Check your solution.

1. $\frac{5}{8}x = 30$

2. $\frac{7}{11}x = 14$

3. $-\frac{7}{12}x = 14$

4. $28 = \frac{14}{15}x$

5. $-\frac{5}{6}x = 20$

6. $-24 = -\frac{12}{19}x$

7. $\frac{7}{11}x = \frac{4}{11}$

8. $\frac{4}{5}x = \frac{7}{5}$

9. $\frac{9}{10}x = \frac{2}{5}$

10. $-\frac{3}{4}x = \frac{11}{32}$

11. $\frac{3}{14} = -\frac{11}{21}x$

12. $-\frac{7}{13}x = \frac{5}{26}$

Solve the equation. Check your solution.

13. $\frac{1}{2}x + 9 = 36$

14. $\frac{4}{7}x + 8 = 28$

15. $6 = \frac{1}{2}x - \frac{1}{4}$

16. $-\frac{2}{3}x + (-10) = 14$

17. $32 = 16 - \frac{1}{2}x$

18. $29 = \frac{9}{11}x + 11$

19. $-\frac{14}{17}x + \frac{13}{17} = \frac{12}{17}$

20. $\frac{5}{11}x + \frac{4}{11} = \frac{3}{11}$

21. $\frac{8}{19} = -\frac{10}{19}x - \frac{9}{19}$

22. $\frac{2}{3}x + \frac{5}{9} = \frac{4}{9}$

23. $\frac{1}{2} = \frac{9}{14}x - \frac{4}{7}$

24. $\frac{8}{21} = -\frac{10}{21}x + \frac{3}{7}$

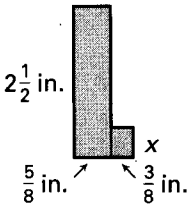
LESSON 5.6 Continued

Name _____ Date _____

Practice

For use with pages 247–252

25. The figure is composed of two rectangles. The area of the figure is $1\frac{3}{4}$ square inches.



a. Find the area of the larger rectangle.

b. Write an expression for the area of the smaller rectangle.

c. Write an equation relating the sum of the areas in parts (a) and (b) to the total area of the figure. Solve the equation to find the value of x.

26. The weight of a bull calf is 388 kilograms. If its weight increases at a rate of $1\frac{2}{5}$ kilograms per day, how long it will take the bull calf to reach a weight of 500 kilograms?

LESSON 5.7

Name _____ Date _____

Practice

For use with pages 253–257

Solve the equation by first clearing the fractions.

1. $-\frac{17}{31}x + \frac{7}{31} = \frac{15}{31}$

2. $\frac{1}{12} - \frac{2}{3}x = \frac{1}{3}$

3. $\frac{8}{17}x + \frac{5}{34} = \frac{6}{17}$

4. $\frac{2}{3} = \frac{7}{9}x + \frac{11}{36}$

5. $\frac{1}{6} - \frac{1}{3}x = \frac{2}{3}$

6. $\frac{6}{11} = \frac{1}{4} + \frac{7}{11}x$

7. $\frac{2}{3}x - \frac{1}{6} = \frac{2}{7}$

8. $\frac{7}{20} = \frac{1}{6} + \frac{1}{2}x$

9. $\frac{5}{16} = \frac{1}{6} - \frac{7}{12}x$

Solve the equation by first clearing the decimals.

10. $2.3x + 9.2 = 23$

11. $9.6 - 2.4x = -24$

12. $-3.9 = 2.6x + 1.56$

13. $6.1x + 20.74 = -51.85$

14. $26.4 = 6.6x + 10.56$

15. $4.5x + 15.3 = -38.25$

16. $1.55 = -3.1x - 0.62$

17. $81.9 = 32.76 + 9.1x$

18. $-0.24 = 0.96 - 0.6x$

LESSON 5.7 Continued

Name _____ Date _____

Practice

For use with pages 253–257

Solve the inequality.

19. $\frac{1}{4} \leq \frac{1}{16} - \frac{1}{2}x$

20. $-\frac{5}{9}x - \frac{1}{9} < \frac{1}{3}$

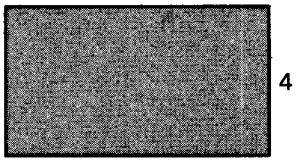
21. $\frac{8}{17}x + \frac{5}{34} > \frac{6}{17}$

22. $\frac{9}{40} - \frac{3}{5}x < \frac{1}{2}$

23. $\frac{1}{5} \leq \frac{1}{15} - \frac{1}{2}x$

24. $\frac{1}{5} \geq \frac{1}{6} - \frac{2}{3}x$

25. Describe the possible values of x if the area of the rectangle is at least 40 square inches.



26. You need to exchange some of your U.S. dollars for European euros (€). For every U.S. dollar, you can get €0.866 in European euros. If you already have €187.22 in European euros, how much in U.S. dollars do you need to exchange to have €360.42 in European euros?