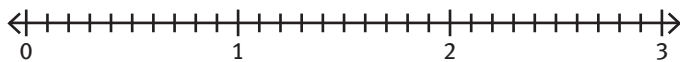


Course 1 Unit 1 Practice

LESSON 1-1

1. The table shows the price of some fruit at Mari's grocery store. Plot each decimal on the number line below. Write the first letter of the name of the fruit above the point representing its price.

Mari's Grocery Store	
Fruit	Price per Pound
Apple	\$1.30
Grapes	\$.89
Oranges	\$2.15
Pear	\$1.69
Strawberries	\$2.50



2. Insert $>$ or $<$ between each pair of numbers to create a true inequality statement.
- 32.5 _____ 30.8
 - 2.6 _____ 2.19
 - 10 _____ 10.01
3. Order the numbers in each group from greatest to least.
- 47, 63.5, 47.8, 63, 48.1
 - 8.9, 8.19, 8.91, 8.098, 8.1
 - 20, 2.05, 19.06, 20.005, 1.905
4. The following numbers are in order from least to greatest. There is a missing number. Which of the following could be the missing number?
- 12, 12.05, ____, 12.1
- 12.051
 - 12.15
 - 12.04
 - 12.049

5. **Critique the reasoning of others.** Isabella wrote $0.0135 < 0.01350$ because $135 < 1350$. Is Isabella correct? Why or why not?

LESSON 1-2

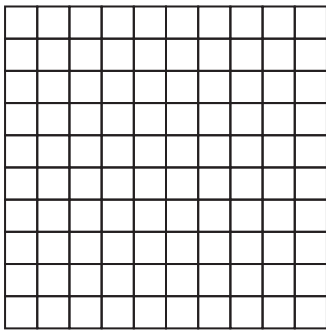
6. Find the sum or difference. Use any method you like.
- $18.05 + 56.95$
 - $23.202 + 10 + 0.839 + 5.5$
 - $36 - 19.83$
 - $1.005 - 0.2$
 - $12.78 + 0.02 + 88$
7. The total resistance in an electrical circuit consisting of three heaters is 13.62 ohms. The resistances of two of the heater elements are 4.98 ohms and 5.1 ohms. What is the resistance of the third heater element?
- 3.54 ohms
 - 8.52 ohms
 - 10.08 ohms
 - 23.7 ohms
8. Two incoming currents at a node in an electrical circuit are 0.59 amps and 0.47 amps. One of the outgoing currents is 0.7 amps. Find the number of amps in the second outgoing current.
9. **Reason abstractly.** At the green grocer, Liam bought three pounds of apples for \$3.87, bananas for \$3, grapes for \$2.23, and pears for \$2.37. He has \$10. Will that be enough to pay for the fruit? Why or why not?
10. **Model with mathematics.** Explain how you would model $8.75 - 3.53$. What is the answer to this decimal subtraction problem?

LESSON 1-3

11. Find the products.

- a. 7.4×8
- b. 3.59×6.2
- c. 9.3×0.05
- d. 2.75×12.5

12. **Model with mathematics.** How many decimal places are in the product of 0.6×0.7 ? How do you know? Use a decimal model to verify.



13. **Make use of structure.** Write a rule that can be used to determine the number of decimal places in the product of two decimals.

14. **Reason quantitatively.** Mr. Santaella wants to buy a total of 3.7 acres of farmland. The land is divided into two parcels. 1.5 acres are tilled and 2.2 acres are non-tilled. The cost is \$3,866 per acre for tilled land and \$3,029 per acre for non-tilled land. How much will it cost Mr. Santaella to buy the farmland? Why might Mr. Santaella round up the number of acres for each piece to calculate the cost?

15. **Persevere in solving problems.** Mrs. Aster wants to plant a vegetable garden on a plot of land that is in the shape of a rectangle. The length of the garden is 12 feet and the area is 96 square feet. It costs \$17.31 per linear foot to install a fence. If the gate is 3 feet wide gate and costs \$129.89, what is the total cost of fencing in the garden?

- A. \$147.20
- B. \$597.39
- C. \$770.36
- D. \$821.29

LESSON 1-4

16. Find the quotients.

- a. $6168 \div 257$
- b. $2,078,550 \div 310$
- c. $7074 \div 90$
- d. $1230 \div 375$

17. **Use appropriate tools strategically.** What estimation technique would you use if you use a calculator to divide decimals? What estimation technique would you use if you use pencil and paper to divide decimals?

18. Caroline spent \$78 on 4 T-shirts. How much did each T-shirt cost?

19. **Persevere in solving problems.** Jen spent \$130 for 8 scarves. Laurie spent \$75 for 6 scarves. How much less per scarf did Laurie spend?

- A. \$3.75
- B. \$12.50
- C. \$16.25
- D. \$55.00

20. How do you find unit cost? Give an example.

LESSON 1-5

21. Find the quotients.
- a. $490.2 \div 76$
 - b. $309 \div 0.05$
 - c. $24,941 \div 4.9$
 - d. $539.28 \div 6.42$
 - e. $11.025 \div 10.5$
22. Estimate the quotient of $20.48 \div 3.2$. Which estimation method did you use? Explain your thinking.
23. Chance spent \$1,189 on text books during his freshman year at college. If he bought 13 textbooks, what was the average cost of each textbook?
24. **Critique the reasoning of others.** Madison spent \$1,192 on 11 textbooks. She calculated the average cost of a textbook to be \$10.84.
- a. Is this correct?
 - b. How do you know?
 - c. What error might have occurred?
 - d. Without dividing, decide what the average cost of Madison's textbook would be?
25. **Critique the reasoning of others.** Gaetano spent \$13.23 on pens. If each pen costs \$1.89, how many pens did he buy?
- A. 5
 - B. 7
 - C. 8
 - D. 12

LESSON 2-1

26. Determine the prime factorization of each number.
- a. 36
 - b. 120
 - c. 258
 - d. 630
27. **Reason quantitatively.** Explain why every number with a 0 in the ones place is not a prime number.
28. There are 117 students in the after-school program. Each student is involved in one activity. Which of the following is a possible number of activities and students per activity?
- A. 3 students and 13 activities
 - B. 9 students and 13 activities
 - C. 9 students and 17 activities
 - D. 17 students and 100 activities
29. **Reason abstractly.** Express 100 as the sum of two primes.
30. **Use appropriate tools strategically.** Is 137 a prime number? How do you know?

LESSON 2-2

31. Evaluate each expression.
- a. 3^4
 - b. 5^3
 - c. 10^8
 - d. 11^3
32. Write the prime factorization of each number, using exponents as needed.
- a. 165
 - b. 648
 - c. 1,728
 - d. 1,575
33. Write 625 in exponential form in two different ways.
34. **Reason quantitatively.** Is the expression $125,649^0 = 1^{125,649}$ a true statement? Explain your reasoning.

35. Evaluate the expression $2^4 + 3^3$.

- A. 17
- B. 43
- C. 156
- D. 361

LESSON 3-1

36. List all the factors of each number.

- a. 18
- b. 24
- c. 35
- d. 28
- e. 60

37. Find the greatest common factor of each set of numbers.

- a. 12, 42
- b. 27, 63
- c. 45, 60
- d. 18, 36
- e. 12, 15, 24

38. **Attend to precision.** Fiona has 18 red carnations, 27 white carnations, and 36 blue carnations. She wants to make arrangements of red, white, and blue carnations. She plans to use all of the flowers and to have the same number of each color in each arrangement. If she makes the greatest number of arrangements possible, then how many blue carnations will be in each arrangement?

- A. 2
- B. 3
- C. 4
- D. 9

39. The greatest common factor of 45 and another number is 15. Find two possible values of the other number.

40. Mari has 42 green beads, 30 yellow beads, and 54 blue beads. She wants to use all of the beads and string the beads so that she has the same number of each color on a string of beads. What is the greatest number of strings of beads she can make?

LESSON 3-2

41. What number is NOT a common multiple of 3 and 8?

- A. 48
- B. 64
- C. 72
- D. 96

42. **Make use of structure.** The prime factorization of two numbers are given below:

Number one: $2 \times 2 \times 5$

Number two: 2×3

What is the least common multiple of the numbers?

43. Find the least common multiple of each set of numbers.

- a. 6, 8
- b. 9, 15
- c. 12, 15
- d. 6, 8, 10
- e. 6, 5, 9

44. The store manager wants to order the same number of jars of peanut butter as jars of jelly. Peanut butter comes in a box of 15 jars. Jelly comes in a box of 18 jars.

- a. What is the smallest number of peanut butter jars and jelly jars the manager must buy to have the same number of peanut butter jars as jelly jars?
- b. How many boxes of peanut butter should the manager order, and how many boxes of jelly should the manager order?

LESSON 4-1

45. Complete.

a. $\frac{2}{3} = \frac{?}{15}$

b. $\frac{3}{4} = \frac{18}{?}$

c. $\frac{4}{5} = \frac{20}{?}$

d. $\frac{3}{8} = \frac{?}{24}$

e. $\frac{5}{6} = \frac{30}{?}$

46. Write each fraction in its simplest form.

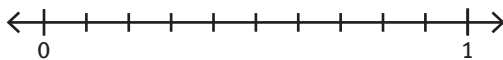
a. $\frac{9}{15}$

b. $\frac{10}{12}$

c. $\frac{12}{27}$

d. $\frac{12}{18}$

e. $\frac{16}{28}$

47. **Model with mathematics.** Draw points on the number line below to represent each of the following fractions. Write the appropriate letter over each point.

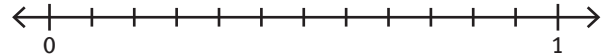
a. $\frac{3}{4}$

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

c. $\frac{1}{3}$

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

e. $\frac{19}{20}$

48. **Use appropriate tools strategically.** How did you determine the placement of $\frac{19}{20}$ on the number line above?**LESSON 4-2**49. **Model with mathematics.** Use the number line to order the fractions $\frac{5}{10}$, $\frac{1}{4}$, $\frac{15}{20}$, $\frac{2}{3}$ from least to greatest.50. **Make sense of problems.** Adriana put 30 crayons in a box. Of these crayons, she put in 12 yellow, 9 red, 6 green, and 3 blue.

- Write the fraction of the total represented by each color. Then, write each fraction in simplest form.
- The box already had a total of 10 crayons. Of these crayons, 3 were red. Of the total number of crayons that are now in the box, what fractional part are red crayons? Write the fraction in simplest form.

51. **Reason quantitatively.** Which fraction is greater, $\frac{7}{30}$ or $\frac{11}{30}$? How do you know?52. Compare the fractions. Use $<$, $=$, or $>$.

a. $\frac{3}{5}$ _____ $\frac{3}{8}$

b. $\frac{7}{9}$ _____ $\frac{49}{63}$

c. $\frac{3}{4}$ _____ $\frac{30}{36}$

d. $\frac{2}{3}$ _____ $\frac{3}{4}$

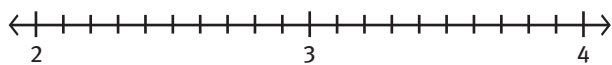
e. $\frac{7}{6}$ _____ $\frac{17}{18}$

LESSON 4-3

53. Model with mathematics. Draw a model

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

54. Model with mathematics. Place the number $3\frac{2}{5}$ on the number line below.



55. Write each improper fraction as a mixed number in simplest form.

a. $\frac{9}{4}$

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

c. $\frac{16}{6}$

d. $\frac{20}{8}$

e. $\frac{12}{9}$

56. Write each mixed number as an improper fraction.

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

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

c. $1\frac{3}{8}$

d. $3\frac{5}{6}$

e. $4\frac{2}{3}$

57. Convert $10\frac{5}{3}$ to a mixed number in simplest form and an improper fraction.

LESSON 4-4

58. Compare the numbers. Use $<$, $=$, or $>$.

a. $4\frac{1}{2}$ _____ $3\frac{7}{8}$

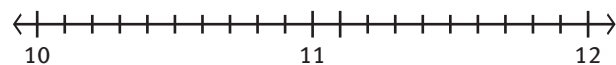
b. $7\frac{3}{4}$ _____ $7\frac{9}{10}$

c. $3\frac{4}{5}$ _____ $2\frac{9}{5}$

d. $5\frac{7}{8}$ _____ $5\frac{5}{8}$

e. $6\frac{2}{3}$ _____ $6\frac{18}{27}$

59. Model with mathematics. Draw points on the number line below to represent each fraction. Write the appropriate letter over each point.



a. $10\frac{3}{5}$

b. $11\frac{10}{20}$

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

d. $11\frac{9}{15}$

e. $10\frac{30}{100}$

60. Critique the reasoning of others. On a number line, Charlotte placed a dot at $5\frac{3}{5}$ to represent the number $4\frac{16}{10}$. Was she correct? Explain.

61. It took Gavin $1\frac{1}{2}$ hours to finish his homework. It took Micah one hour 45 minutes to finish his homework. Which student took less time on his homework? Explain.

62. Make sense of problems. Elana babysits on weekends to earn some money. She charges \$7 an hour before midnight and \$10 an hour after midnight. Elana made a chart of the babysitting she did on weekends last month.

Elana's Babysitting		
Family	Before Midnight	After Midnight
Mrs. Ilg	$3\frac{1}{2}$ hours	
Mrs. Re	2 hours	2 hours
Mrs. Miller	3 hours	$1\frac{1}{2}$ hours

- How much did Elana earn babysitting for Mrs. Ilg?
- Did Elana earn more babysitting for Mrs. Re or Mrs. Ilg? Explain.
- How much more did Elana earn babysitting for Mrs. Miller than for babysitting for Mrs. Re?

- 63.** Which number is greater than $\frac{53}{7}$?
- A. $5\frac{3}{7}$ B. $7\frac{5}{10}$
- C. $7\frac{4}{7}$ D. $7\frac{6}{7}$

LESSON 5-1

64. Which product does this model represent?



- A. $\frac{1}{3} \times \frac{3}{5}$
- B. $\frac{2}{3} \times \frac{2}{5}$
- C. $\frac{2}{3} \times \frac{5}{2}$
- D. $\frac{3}{2} \times \frac{2}{5}$
- 65.** Estimate the product $\frac{7}{15} \times 35$. Explain how you made your estimate.
- 66.** Determine each product in simplest form.
- $\frac{3}{8} \times \frac{4}{5}$
 - $\frac{5}{6} \times \frac{4}{5}$
 - $7 \times \frac{11}{12}$
 - $\frac{3}{4} \times \frac{5}{8}$
 - $\frac{4}{9} \times 5$
- 67.** Complete. $\frac{4}{5} \times 25 = \frac{5}{9} \times ?$

68. A pair of \$36 jeans were on sale at Jim's Jeans for $\frac{1}{3}$ off. The same pair of jeans were \$42 at David's Denims. The jeans were on sale for $\frac{2}{3}$ off.
- Which store had the better buy?
 - How much would you pay if you bought the jeans at the store that offered the better buy?

LESSON 5-2

69. Determine each product in simplest form.

a. $1\frac{1}{3} \times \frac{5}{8}$

b. $2\frac{4}{7} \times \frac{7}{9}$

c. $\frac{3}{5} \times 3\frac{3}{4}$

d. $6 \times 3\frac{2}{3}$

e. $5\frac{1}{3} \times 9$

f. $10 \times 2\frac{2}{5}$

g. $1\frac{5}{9} \times 1\frac{5}{7}$

h. $4\frac{1}{6} \times 1\frac{3}{5}$

i. $2\frac{2}{5} \times 4\frac{3}{8}$

70. Which of the following statements is true for the product of $3\frac{3}{5} \times \frac{4}{9}$?
- The product is less than 1.
 - The product is greater than 1.
 - The product is a whole number.
 - The product is equal to 1.

71. Estimate the product of $12\frac{1}{7} \times 1\frac{7}{12}$. Explain.

72. **Critique the reasoning of others.** Madison wants to purchase a rectangular piece of land that is $19\frac{3}{4}$ acres by $20\frac{1}{4}$ acres. She estimated that the parcel is about 40 square acres. Is Madison correct? Explain. What is a good estimate?

LESSON 6-1

73. Complete: The number of thirds in 90 is equal to the number of _____ in 45 which is equal to the number of ninths in _____.

74. Determine the reciprocal of each number.

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

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

c. 8

75. Divide. Write the quotient in simplest form.

a. $\frac{2}{3} \div \frac{3}{5}$

b. $10 \div \frac{1}{2}$

c. $\frac{6}{7} \div 3$

d. $\frac{7}{8} \div \frac{1}{4}$

e. $\frac{3}{5} \div \frac{9}{10}$

f. $7 \div \frac{5}{7}$

g. $\frac{1}{3} \div 4$

h. $15 \div \frac{12}{25}$

76. Reason quantitatively. Write $<$, $=$, or $>$ to make a true statement.

- If you divide a whole number by a fraction, the quotient is ___ the whole number.
- If you divide a fraction by a whole number, the quotient is ___ the fraction.
- If you divide a mixed number by $\frac{n}{n}$, the quotient is ___ the mixed number.

77. Savannah has $\frac{3}{4}$ of a cake to serve equally among 4 people. How much of the original cake will each person get?

- $\frac{1}{4}$
- $\frac{1}{3}$
- $\frac{3}{16}$
- $\frac{2}{3}$

LESSON 6-2

78. Determine the reciprocal of the number.

- $2\frac{3}{4}$
- 6
- $4\frac{4}{5}$

79. Estimate the quotient.

- $12\frac{2}{5} \div 3\frac{7}{8}$
- $18 \div 1\frac{7}{12}$
- $3\frac{1}{8} \div 5\frac{5}{6}$

80. Divide. Write the quotient in simplest form.

- $\frac{7}{8} \div 1\frac{1}{2}$
- $3\frac{1}{5} \div 2\frac{4}{5}$
- $12 \div 3\frac{3}{8}$
- $4\frac{2}{7} \div 1\frac{7}{8}$
- $\frac{3}{4} \div 2\frac{2}{5}$
- $5\frac{3}{7} \div 6\frac{1}{3}$

81. a. Some number $\div 2\frac{2}{5} = 10$. What is the number?

b. Reason quantitatively. Explain how you found the number.

82. India has a 12-foot board. How many 18-inch pieces can she cut from the board?

- 1
- $1\frac{1}{2}$
- 6
- 8