For Exercises 15–18, solve the conversion problem.

15. Allen runs 8 miles in 3 hours at a steady pace. How long does it take him to run 3 miles?

16. Maren walks $\frac{3}{5}$ mile in 24 minutes at a steady pace. How long does it take her to walk 2 miles?

17. Half an avocado has about 160 Calories. How many Calories do a dozen avocados have?

18. There are about 1.5 grams of fat in 1 tablespoon of hummus. How many grams of fat are in $2\frac{1}{2}$ cups of hummus?
   (**Note:** 16 tablespoons = 1 cup)

For Exercises 20–22, describe what value x represents. Then solve for x.

20. $\dfrac{16 \text{ ounces}}{1 \text{ pound}} = \dfrac{x}{3\frac{1}{2} \text{ pounds}}$

21. $\dfrac{1 \text{ gallon}}{16 \text{ cups}} = \dfrac{x}{36 \text{ cups}}$

22. $\dfrac{x}{12.5 \text{ cups}} = \dfrac{8 \text{ fluid ounces}}{1 \text{ cup}}$

For Exercises 23–25, use the conversions chart in Problem 3.2. Write a proportion and solve the conversion problem.

23. How many ounces are in $10\frac{1}{2}$ pounds?

24. How many cups are in 55 gallons?

25. About how many pounds are in 60 kilograms?

Multiple Choice For Exercises 39–44, choose the best estimate for the division problem. Explain your reasoning.

39. $1\frac{2}{5} \div \frac{3}{4}$

    A. less than 1   **B.** between 1 and 2   **C.** between 2 and 3   **D.** greater than 3

40. $10 \div 1\frac{7}{8}$

    F. less than 1   **G.** between 1 and 5   **H.** between 5 and 10   **J.** greater than 10

41. $5\frac{9}{10} \div 1\frac{1}{2}$

    A. less than 1   **B.** between 1 and 4   **C.** between 4 and 12   **D.** greater than 12

42. $14\frac{2}{7} \div \frac{8}{10}$

    F. less than 1   **G.** between 1 and 7   **H.** between 7 and 14   **J.** greater than 14
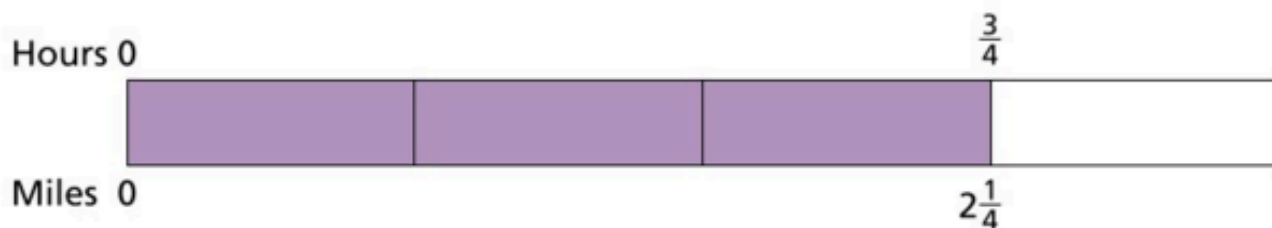
43. $\frac{3}{4} \div \frac{7}{8}$

    A. less than 1   **B.** between 1 and 2   **C.** between 2 and 8   **D.** greater than 8

44. $\frac{19}{20} \div \frac{6}{10}$

    F. less than 1   **G.** between 1 and 2   **H.** between 2 and 10   **J.** greater than 10

45. Felipe walks $2\frac{1}{4}$ miles in 45 minutes at a constant rate. Use the model below to answer the questions about how far Felipe walks.

    a. How far does Felipe walk in 15 minutes?

    b. How far does Felipe walk in 1 hour?

    c. How long does it take Felipe to walk $4\frac{1}{2}$ miles?

    d. How long does it take for Felipe to walk $3\frac{1}{4}$ miles?

For Exercises 46–49, solve each proportion.

46. $\dfrac{\frac{4}{5}}{\frac{1}{5}} = \dfrac{x}{1\frac{1}{2}}$

47. $\dfrac{\frac{5}{6}}{\frac{2}{3}} = \dfrac{x}{\frac{4}{9}}$

48. $\dfrac{\frac{6}{5}}{\frac{6}{10}} = \dfrac{x}{1\frac{2}{10}}$

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

50. The table below shows the conversion between liters and quarts.

Conversion Table

Liters	Quarts
1	1.06
4	4.24
5	5.30
9	9.54

a. About how many liters are in 5.5 quarts?

b. About how many quarts are in 5.5 liters?

c. Write an equation that relates liters L to quarts Q.

55. Use the table at the right.

a. In which sport do boys most outnumber girls?

b. In which sport do girls most outnumber boys?

c. The participation in these team sports is about the same for students at Key Middle School.

Participation in Team Sports at Springbrook Middle School

Sport	Girls	Boys
Basketball	30	80
Football	10	60
Soccer	120	85
Total surveyed	160	225

i. Suppose 250 boys at Key play sports. How many boys would you expect to play each of the three sports?

ii. Suppose 240 girls at Key play sports. How many girls would you expect to play each of the three sports?