1. The library is 5 miles from the post office. How many yards is the library from the post office?

   $8,800$ yards

2. Billy made 3 gallons of juice for a picnic. He said that he made $\frac{3}{4}$ quart of juice. Explain Billy’s mistake.

   Billy divided the number of gallons by 4 to convert to quarts. He should have multiplied the number of gallons by 4 to find the number of quarts in 3 gallons.

3. The Drama Club is showing a video of their recent play. The first showing begins at 2:30 P.M. The second showing is scheduled at 5:25 P.M. with a $\frac{1}{2}$-hour break between the showings.

   **Part A**

   How long is the video in hours and minutes?

   $2$ hours and $25$ minutes

   **Part B**

   Explain how you can use a number line to find the answer.

   I can work backward from the start time of the second showing at 5:25. I count back 30 minutes for the break between showings to 4:55. Then I can find the elapsed time between 2:30 and 4:55.

   **Part C**

   The second showing started 20 minutes late. Will the second showing be over by 7:45 p.m.? Explain why your answer is reasonable.

   No. The second showing started at 5:45 p.m. The movie lasted 2 hr 25 min, so it ends at 8:10 p.m., which is later than 7:45 p.m.
4. Fred bought 4 liters of liquid laundry detergent, 3,250 milliliters of fabric softener, and 2.5 liters of bleach. For 4a–4e, select True or False for each statement.

4a. Fred bought 75 milliliters more fabric softener than bleach.  
   ○ True  ○ False

4b. Fred bought 1.75 liters more laundry detergent than bleach.  
   ○ True  ○ False

4c. Fred bought 750 milliliters more fabric softener than bleach.  
   ○ True  ○ False

4d. Fred bought 150 milliliters more laundry detergent than bleach.  
   ○ True  ○ False

4e. Fred bought 0.75 liters more laundry detergent than fabric softener.  
   ○ True  ○ False

5. A male hippopotamus can weigh up to 10,000 pounds. How many tons is 10,000 pounds?

   5 tons

6. **THINK SMARTER +**  Amar and his friends went to a movie at 4:45 p.m. The movie ended at 6:20 p.m.

   **Part A**
   
   How long was the movie?
   
   1 hour and 35 minutes

   **Part B**
   
   Amar got home 45 minutes after the movie ended. What time did Amar get home? Explain how you found your answer.

   7:05 p.m. I need to find 45 minutes after 6:20 p.m.  
   6:20 to 7:00 is 40 minutes so 5 minutes more is 7:05.
7. Select the objects that hold the same amount of liquid as a 96-fluid-ounce jug. Mark all that apply.

A) three 1-quart bottles
B) two 1-quart bottles
C) two 1-quart bottles and two 1-pint bottles
D) one 1-quart bottle and eight 8-ounce fluid glasses
E) two 8-ounce fluid glasses and two 1-pint bottles

8. Lorena's backpack has a mass of 3,000 grams. What is the mass of Lorena's backpack in kilograms? __3__ kilograms

9. **Go Deeper** Richard walks every day for exercise at a rate of 1 kilometer every 12 minutes.

Part A

At this rate, how many meters can Richard walk in 1 hour? Explain how you found your answer.

5,000 meters. Since there are 60 min in 1 hr, I divided 60 ÷ 12 = 5. Then I multiplied 1 x 5 = 5 to find out how many kilometers Richard walks in 1 hour. Since there are 1,000 meters in 1 kilometer, I multiplied 5 x 1,000 = 5,000 to convert to meters.

Part B

Suppose Richard walks 1 kilometer every 10 minutes. How many meters further can he walk in 1 hour at this new rate? Explain how you found your answer.

1,000 meters. Since there are 60 min in 1 hr, I divided 60 ÷ 10 = 6. Then I multiplied 1 x 6 = 6 to find out how many kilometers Richard walks in 1 hr. Since there are 1,000 m in 1 km, I multiplied 6 x 1000 = 6,000 to convert to meters. So Richard walks 6,000 meters in 1 hour at his new rate. Then I subtracted 6,000 - 5,000 = 1,000.
10. Beth filled 32 jars with paint. If each jar holds 1 pint of paint, how many gallons of paint did Beth use? 

4 gallons

11. Griffins's driveway is 36 feet long. Choose the word and number to complete the sentence correctly.

To convert 36 feet to yards, multiply 36 by

- add
- subtract
- multiply
- divide

12. Carlos bought 5 pounds of carrots. How many ounces of carrots did he buy?

80 ounces

13. Chandler has 824 millimeters of fabric. How many centimeters of fabric does Chandler have? Use the numbers and symbols on the tiles to write an equation to show the conversion.

\[824 \div 10 = 82.4\]

Chandler has 82.4 centimeters of fabric.

14. Glenn needs to cut pieces of ribbon that are each 1 meter long to make ribbon key chains. If he has 3 pieces of ribbon that are each 1 dekameter long, how many 1-meter pieces of ribbon can he cut?

30 pieces
15. A large pot holds 8 quarts of spaghetti sauce. Lisa has 1-pint containers of spaghetti sauce. Complete the table to help you find the number of 1-pint containers of spaghetti sauce Lisa will need to fill the pot.

<table>
<thead>
<tr>
<th>quart</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>pint</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
</tr>
</tbody>
</table>

Lisa will need **16** 1-pint containers to fill the pot.

16. Emily bought 48 yards of fabric to make curtains. How many inches of fabric did Emily buy?

1,728 inches

17. Kelly is having a party. She wants to make punch. The recipe for punch uses 3 pints of pineapple juice, 5 cups of orange juice, \( \frac{1}{4} \) gallon of lemonade, and 1 quart of apricot nectar.

Part A

Kelly says her recipe will make 20 cups of punch. Is Kelly correct? Explain your answer.

No. The recipe will make **19** cups of punch. I converted all the measurements to cups:

3 pints = 6 cups; \( \frac{1}{4} \) gallon = 4 cups; 1 quart = 4 cups; 5 cups = 6.25.

6 + 5 + 4 + 6.25 = 19 cups

Part B

Kelly decides to pour her punch into 1-quart containers to fit into her refrigerator until the party starts. She has four 1-quart containers. Will all of her punch fit into the containers? Explain.

No. 1 qt container will hold 4 cups of punch. Four 1-qt containers will hold 16 cups of punch. Kelly has 19 cups of punch. Since 19 > 16, all the punch will not fit into 4 1-qt containers.
18. Sam is practicing long track speed skating at an ice skating rink. The distance around the rink is 250 yards. He has skated around the rink 6 times so far. How many more yards does he need to skate around the rink to complete 3 miles?

3,780 yards

19. Maria spent 15 days traveling in South America. How many hours did she spend traveling in South America?

360 hours

20. A concrete truck loaded with concrete weighs about 30 tons. About how many pounds does the loaded truck weigh?

60,000 pounds

21. A plumber has a piece of pipe that is 2-meter long. He needs to cut it into sections that are 10 centimeters long. How many sections will he be able to cut? Show your work. Explain how you found your answer.

20 sections

200 ÷ 10 = 20

22. For 22a–22d, select True or False for each statement.

22a. 2,000 lb > 1 T

○ True

○ False

22b. 56 oz < 4 lb

○ True

○ False

22c. 48 oz = 3 lb

○ True

○ False

22d. 40 oz < 2 lb 4 oz

○ True

○ False