

NAME _____

Module 12 Attributes and Tools
Lesson 4 Measurement: Distance

Independent Practice

12.4

Use a ruler for Problems 1 – 5.

1. Find the length of the line segment to the nearest quarter inch.

$1\frac{1}{4}$ inch

2. Find the length of the line segment to the nearest centimeter.

9 cm

3. Find the length of the line segment to the nearest millimeter.

105 mm

4. Draw a line segment that is $5\frac{3}{8}$ inches long.

5. Draw a line segment that is 44 millimeters long.

Add.

$$\begin{array}{r} 6. \quad 10 \text{ ft } 8 \text{ in.} \\ + \quad 8 \text{ ft } 6 \text{ in.} \\ \hline \end{array}$$

19 ft 2 in.

$$\begin{array}{r} 7. \quad 4 \text{ ft } 10 \text{ in.} \\ + \quad 3 \text{ ft } 11 \text{ in.} \\ \hline \end{array}$$

8 ft 9 in.

$$\begin{array}{r} 8. \quad 17 \text{ yd } 1 \text{ ft} \\ \quad 15 \text{ yd } 2 \text{ ft} \\ + \quad 4 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$$

37 yd 2 ft

$$\begin{array}{r} 9. \quad 4 \text{ yd } 2 \text{ ft } 7 \text{ in.} \\ + \quad 12 \text{ yd } 2 \text{ ft } 9 \text{ in.} \\ \hline \end{array}$$

17 yd 2 ft 4 in.

$$\begin{array}{r} 10. \quad \quad 22 \text{ mm} \\ + \quad 15 \text{ cm } 119 \text{ mm} \\ \hline \end{array}$$

29 cm 1 mm or 29.1 cm

$$\begin{array}{r} 11. \quad 18 \text{ cm } 14 \text{ mm} \\ \quad 29 \text{ cm} \\ \quad 7 \text{ cm } 71 \text{ mm} \\ + \quad 13 \text{ cm } 25 \text{ mm} \\ \hline \end{array}$$

78 cm

Subtract.

$$\begin{array}{r} 12. \quad 18 \text{ ft } 5 \text{ in.} \\ - \quad 7 \text{ ft } 8 \text{ in.} \\ \hline \end{array}$$

10 ft 9 in.

$$\begin{array}{r} 13. \quad 12 \text{ ft } 4 \text{ in.} \\ - \quad 7 \text{ ft } 11 \text{ in.} \\ \hline \end{array}$$

4 ft 5 in.

$$\begin{array}{r} 14. \quad 19 \text{ yd } 1 \text{ ft} \\ - \quad 11 \text{ yd } 2 \text{ ft} \\ \hline \end{array}$$

7 yd 2 ft

$$\begin{array}{r} 15. \quad 15 \text{ yd } 2 \text{ ft } 3 \text{ in.} \\ - \quad 10 \text{ yd } 2 \text{ ft } 11 \text{ in.} \\ \hline \end{array}$$

4 yd 2 ft 4 in.

$$\begin{array}{r} 16. \quad 104 \text{ cm } 25 \text{ mm} \\ - \quad 82 \text{ cm } 84 \text{ mm} \\ \hline \end{array}$$

16.1 cm

$$\begin{array}{r} 17. \quad 36 \text{ cm} \\ - \quad 15 \text{ cm } 54 \text{ mm} \\ \hline \end{array}$$

15.6 cm

NAME _____

Module 12 **Attributes and Tools**
Lesson 4 **Measurement: Distance**

18. Jon is buying a new desk. The length of his old desk is four feet eight inches long. The new desk is five feet two inches long. How much greater is the length of the new desk?

The new desk is six inches longer.

19. Dylan swam 25 laps of a pool. Each lap is 50 meters. Greg swam 1.1 kilometers. Who swam the greater distance? How much greater?

Dylan swam 150 meters, or 0.15 kilometers, more.

20. Erin bought 221 yards of yarn. She used 110 yards 2 feet 11 inches to knit one sock. Does she have enough yarn left to knit the other sock? Explain.

**No: Erin has 110 yd 1 in. of yarn left.
She would need another 2 ft 10 in. of yarn.**

Journal

1. Explain how to round the measurement $4\frac{7}{8}$ inches to the nearest half-inch.
2. When adding distance measurements, when do you have to rename units in the sum? Give an example. When subtracting distance measurements, how do you know when to regroup? Give an example.
3. How is solving $57 - 49$ the same as subtracting 4 ft 9 in. from 5 ft 7 in.? How is it different?

Cumulative Review

Match each metric prefix to its power of ten equivalent.

- | | | |
|-----------------|----------|----------|
| _____ 1. centi- | D | A. 0.1 |
| _____ 2. deci- | A | B. 0.001 |
| _____ 3. kilo- | C | C. 1,000 |
| _____ 4. hecto- | E | D. 0.01 |
| _____ 5. milli- | B | E. 100 |

Fill in the blanks.

6. 3,500 lb = _____ T

$1\frac{3}{4}$

7. 5,824 mg = _____ g

5.824

8. 16 h = _____ sec

57,600

9. 283 in. = _____ ft _____ in.

23; 7

10. A centiliter is what fraction of a liter?

$\frac{1}{100}$

11. Laramie left for work at 6:32 A.M. She arrived at work at 7:17 A.M. How long was Laramie's commute to work?

Laramie's commute was 45 minutes.

12. Gracie and Malcolm both traveled from Washington, D.C. to Boston. Gracie went by plane and Malcolm went by train. It took Gracie 1h 26 min and Malcolm 7 h 24 min. How much longer was Malcolm's trip?

Malcolm's trip took five hours and 58 minutes longer.

Possible Journal Answers

1. Half inches are every half of an inch starting from the zero mark, so they include the half way point between any two whole inches as well as the whole inches themselves. To round $4\frac{7}{8}$ to the nearest half inch, I determine the two half-inch measurements that $4\frac{7}{8}$ lie between. Then I determine to which one it is closer. It is between $4\frac{1}{2}$ inches and five inches, but closer to five inches. The measurement to the nearest half inch is five inches.
2. When adding measurements, it is necessary to rename in the sum when the total of the lesser units equals or exceeds the amount needed to make the greater unit. For example, if the problem is in feet and inches, I rename when the number of inches is greater than or equal to 12. If the sum is 6 ft 16 in., I rename 16 in. as 1 ft 4 in. and combine the feet. The answer should be written as 7 ft 4 in. When subtracting, I regroup when the minuend of the smaller unit is lesser than the subtrahend of that unit. For example, when subtracting 4 ft 7 in. from 9 ft 6 in., $6 < 7$. I trade or regroup one foot for 12 inches from 9 ft and write the minuend as 8 ft 18 in. Now, 7 in. can be subtracted from 18 in., and the answer will be 4 ft 11 in.
3. It is the same because the answer is the difference between two values, and in both, the answer can be checked by adding it to the subtrahend and by seeing if it is equal to the minuend. They are also the same because both require trading or regrouping in the first step. They are different, because to regroup when subtracting the whole numbers, 10 is regrouped because one 10 equals 10 ones. With the feet and inches, however, 12 is regrouped because 12 inches equals one foot.

