

Independent Practice

13.1

NAME _____

Module 13 Perimeter, Area, and Volume
Lesson 1 Perimeter and Circumference

Find the unknown values for the circle.

1. Radius = 9.5 in.

Diameter = _____ **19 in.**

Circumference \approx _____ **60 in.**

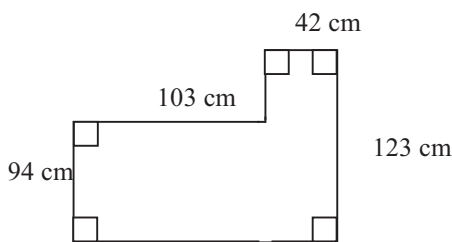
2. Radius \approx _____ **6 ft**

Diameter \approx _____ **12 ft**

Circumference = 38 ft

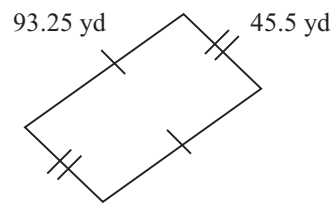
Find the perimeter of the figure.

3.



507 centimeters

4.



277.5 yards

5. The circumference of a circular rug is 16 feet. Estimate the diameter of the rug.

The diameter of the rug is about five feet.

6. The perimeter of a square is 628 inches. What is the length of each side of the square?

The length of each side is 157 inches.

7. The perimeter of a rectangular football field is $346\frac{2}{3}$ yards. The length of the field is 120 yards. What is the width of the field?

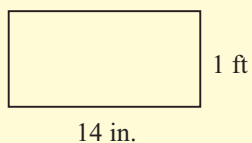
The width of the football field is $53\frac{1}{3}$ yards.

8. A placemat is in the shape of a regular decagon. Each side has a length of 4.2 inches. Find the perimeter of the placemat.

The perimeter of the placemat is 42 inches.

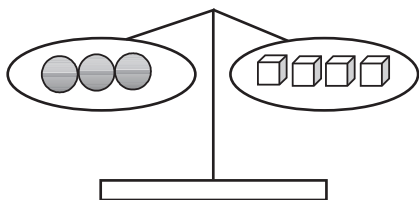
Journal

1. Write a formula that can be used to find the perimeter of any regular polygon. Explain your reasoning.
2. Tell how to find the diameter of a circle when you know the circumference of the circle. Give an example.
3. Jeremy said that the perimeter of the rectangle below is 30. Explain and correct his error.

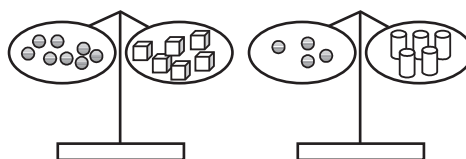


Cumulative Review

1. How many balls balance 36 blocks?
2. How many blocks balance five cans?



27 balls



3 blocks

Fill in the blanks.

3. $25 \text{ h} = \underline{\hspace{2cm}} \text{ sec}$

90,000

4. $1,624 \text{ mL} = \underline{\hspace{2cm}} \text{ L}$

1.624

5. $120 \text{ fl oz} = \underline{\hspace{2cm}} \text{ qt}$

3.75

6. $172 \text{ in.} = \underline{\hspace{1cm}} \text{ ft } \underline{\hspace{1cm}} \text{ in.}$

14; 4

NAME _____

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Perform the indicated operation.

7.
$$\begin{array}{r} 6 \text{ h } 45 \text{ min} \\ + 15 \text{ h } 56 \text{ min} \\ \hline \end{array}$$

22 h 41 min

8.
$$\begin{array}{r} 18 \text{ yd } 4 \text{ ft } 9 \text{ in.} \\ - 2 \text{ yd } 2 \text{ ft } 11 \text{ in.} \\ \hline \end{array}$$

16 yd 1 ft 10 in.

9.
$$\begin{array}{r} 55 \text{ lb } 2 \text{ oz} \\ + 25 \text{ lb } 14 \text{ oz} \\ \hline \end{array}$$

81 lb

10.
$$\begin{array}{r} 89 \text{ km} \\ - 23 \text{ km } 502 \text{ m} \\ \hline \end{array}$$

65 km 498 m

11. A milligram is what fraction of a gram?

A milligram is $\frac{1}{1,000}$ of a gram.

12. Sally began practicing her cello at 4:12 P.M. She finished practicing at 5:51 P.M. How long did Sally practice her cello?

Sally practiced for 1 h 39 min.

Possible Journal Answers

1. All the sides of a regular polygon have the same length. Instead of adding all the side lengths, multiply the length of one side by the number of sides. The formula is $P = n \times s$, where n is the number of sides and s is the length of any side.
2. The circumference of a circle is π times diameter. To find the diameter when the circumference is known, divide the circumference by π : $d = \frac{C}{\pi}$. For example, if the circumference of a circle is 20 inches, the diameter is $\frac{20}{\pi}$. Since π is about 3.14, the diameter is about $\frac{20}{3.14}$ or about 6.4 inches.
3. Jeremy did not consider the units of length for each side. The length is given in inches, and the width is given in feet. To find the perimeter, convert one foot into 12 inches. The perimeter is $2(14) + 2(12)$ inches or 52 inches.