

Grade 7 · Circumference and Area of Circles · Worksheet

Common Core 7.G.B.4 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This worksheet has 20 problems on circles, aligned with Common Core standard 7.G.B.4. The first problems practice radius, diameter, circumference, and area of a single circle. Each problem says whether to use 3.14 for π or to leave the answer in terms of π .

The last problems are word problems with a bicycle wheel, lace trim, a sprinkler, a window, a gravel path, and a flower bed. Label every answer with the correct unit, using square units for area.

Grade 7 Common Core: 7.G.B.4

Problem 1: Radius and diameter

The circle shows a diameter of 14 cm. Find its radius. Then find the diameter of a circle with radius 9 in.

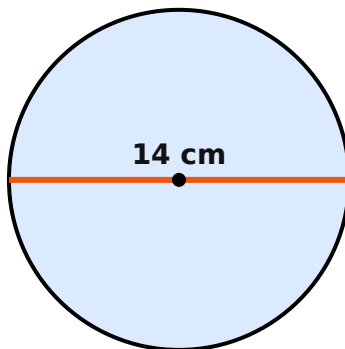


Figure for Problem 1.

Problem 2: Diameter and radius pairs

Find the missing measure of each circle.

- The diameter is 22 cm. Find the radius.
- The radius is 15 in. Find the diameter.

c. The diameter is 3.5 ft. Find the radius.

Problem 3: Circumference from the diameter

Find the circumference of the circle. Use 3.14 for π .

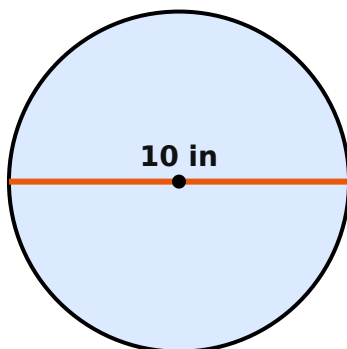
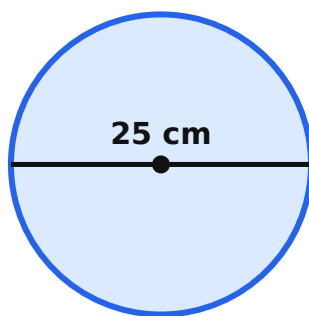


Figure for Problem 3.

Problem 4: Labeled diameter

Find the circumference of the circle. Use 3.14 for π .



A circle with a diameter drawn.

Problem 5: Circumference from the radius

Find the circumference of the circle. Use 3.14 for π .

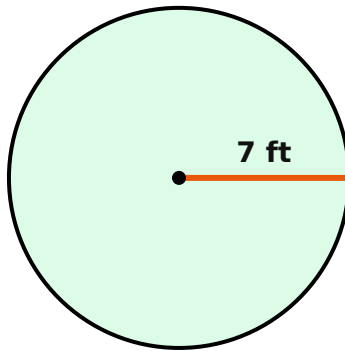


Figure for Problem 5.

Problem 6: Fence around a garden

A circular garden has a radius of 12 m. Find the length of fence needed to go all the way around it. Use 3.14 for π .

Problem 7: Area from the radius

Find the area of the circle. Use 3.14 for π .

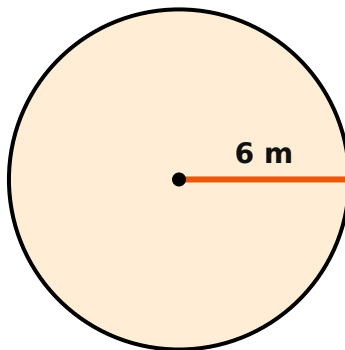
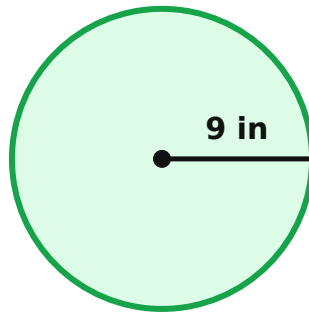


Figure for Problem 7.

Problem 8: Labeled radius

Find the area of the circle. Use 3.14 for π .



A circle with a radius drawn.

Problem 9: Area from the diameter

A circular rug has a diameter of 20 cm on a model. Find its area. Use 3.14 for π .

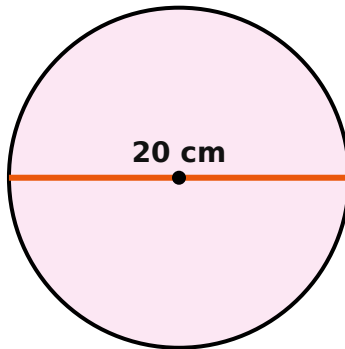


Figure for Problem 9.

Problem 10: Circular patio

A circular patio has a diameter of 16 ft. Find its area. Use 3.14 for π .

Problem 11: Answers in terms of pi

A circle has radius 8 cm. Find its circumference and its area. Leave both answers in terms of π .

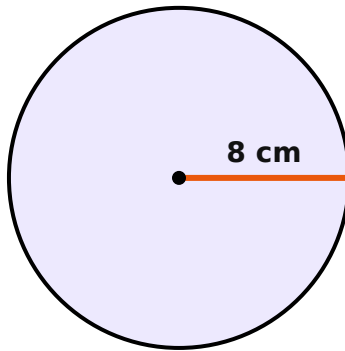


Figure for Problem 11.

Problem 12: Exact answers with pi

A circle has radius 11 m. Find its circumference and its area. Leave both answers in terms of π .

Problem 13: Work backward from circumference

A circle has a circumference of 62.8 cm. Find its diameter and its radius. Use 3.14 for π .

Problem 14: Work backward from area

A circle has an area of 706.5 cm². Find its radius, its diameter, and its circumference. Use 3.14 for π .

Problem 15: Bicycle wheel

Maya's bicycle wheel has a diameter of 26 in. How far does the bike roll in 10 full turns of the wheel? Use 3.14 for π .

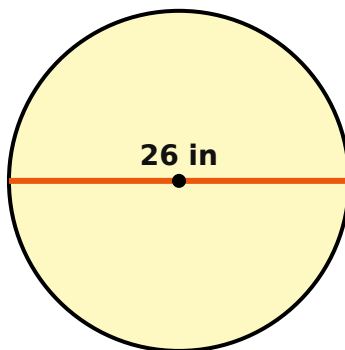


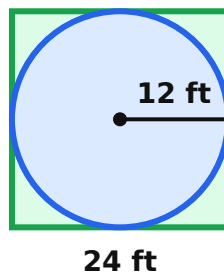
Figure for Problem 15. The wheel of Maya's bike.

Problem 16: Lace trim

Mei sews lace trim around the edge of a round tablecloth with a radius of 36 in. Lace costs \$1.50 per foot and can be cut to any length. Find the length of lace in inches and in feet, and then the cost. Use 3.14 for π .

Problem 17: Sprinkler coverage

Liam's lawn is a square 24 ft on each side. A sprinkler in the center waters a circle with a radius of 12 ft. Find the area of the lawn that does not get watered. Use 3.14 for π .



A square lawn and a circular spray.

Problem 18: Window with a semicircle

A window is a rectangle 6 ft wide and 4 ft tall with a semicircle on top. Find the total area of glass. Use 3.14 for π .

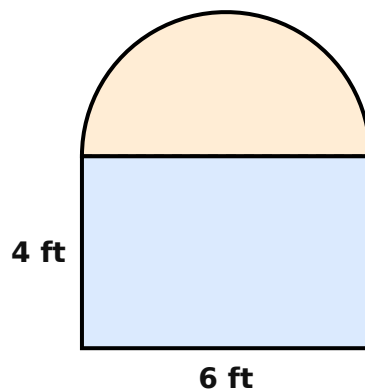
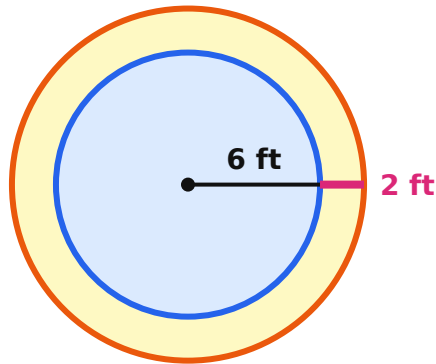


Figure for Problem 18.

Problem 19: Gravel path

A circular pond has a radius of 6 ft. A gravel path 2 ft wide goes all the way around the pond. Find the area of the path. Use 3.14 for π .



A pond with a gravel path around it.

Problem 20: Quarter-circle flower bed

Jamal's flower bed is a quarter circle with both straight edges 10 ft long. (a) Find the area of the bed. (b) Find the length of fence needed to go all the way around it. Use 3.14 for π .

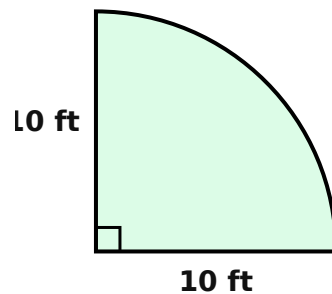


Figure for Problem 20.