LESSON MAKER PRO

Circle Distance Quest

Use diameter, radius, and pi to measure around circles.

GRADE 7 · MA.7.GR.1.3

MA.7.GR.1.3 "Explore the proportional relationship between circumferences and diameters of circles. Apply a formula for the circumference of a circle to solve mathematical and real-world problems."

NAME _____ DATE _____

AROUND A CIRCLE

Circumference is the distance around a circle. The ratio of circumference to diameter is always pi, so use C = pi d, or use C = 2pi r when you know the radius.

WORKED EXAMPLE

Find the circumference of a circle with a diameter of 14 cm. Use pi = 22/7.

1. C = pi d
2. C = (22/7) x 14
3. C = 44 cm

Answer: 44 cm

PRACTICE 6 problems

1 Find the circumference of a circle with a diameter of 6 cm. Leave your answer in terms of pi.

ANSWER _____

2 Find the circumference of a circle with a radius of 5 cm. Leave your answer in terms of pi.

ANSWER _____

3 A circle has a circumference of 18pi cm. What is its diameter?

ANSWER _____

4 A circle has a diameter of 11 cm. Use pi = 3.14 to find its circumference.

ANSWER _____

5 A circle has a circumference of 50.24 cm. Use pi = 3.14 to find its diameter.

ANSWER _____

6 Circle A has a diameter of 4 cm. Circle B has a diameter of 13 cm. How much greater is the circumference of Circle B than the circumference of Circle A? Leave your answer in terms of pi.

ANSWER _____

APPLY IT Show your work

1 A music club gives away round buttons with a diameter of 3 cm. It needs one ribbon wrap around each of 24 buttons. How much ribbon is needed? Leave your answer in terms of pi.

WORK SPACE

ANSWER _____

2 A bike wheel has a radius of 10 inches. During a ride, the wheel makes 15 complete turns. How far does the bike travel in feet? There are 12 inches in 1 foot. Leave your answer in terms of pi.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Circle A has a diameter of 12 cm. Circle B has a circumference that is 3 times the circumference of Circle A. Without finding either circumference, find the diameter of Circle B and explain your reasoning.

_____

_____

ANSWER KEY

Circle Distance Quest

GRADE 7 · MA.7.GR.1.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the circumference of a circle with a diameter of 6 cm. Leave your answer in terms of pi.	**6pi cm**
2	Find the circumference of a circle with a radius of 5 cm. Leave your answer in terms of pi.	**10pi cm**
3	A circle has a circumference of 18pi cm. What is its diameter?	**18 cm**
4	A circle has a diameter of 11 cm. Use pi = 3.14 to find its circumference.	**34.54 cm**
5	A circle has a circumference of 50.24 cm. Use pi = 3.14 to find its diameter.	**16 cm**
6	Circle A has a diameter of 4 cm. Circle B has a diameter of 13 cm. How much greater is the circumference of Circle B than the circumference of Circle A? Leave your answer in terms of pi.	**9pi cm**

PART 2 · APPLY IT

1. **72pi cm** Each button needs pi x 3 = 3pi cm of ribbon. Multiply 3pi by 24 to get 72pi cm.
2. **25pi feet** One turn covers 2pi(10) = 20pi inches, so 15 turns cover 300pi inches. Divide by 12 to get 25pi feet.

CHALLENGE

36 cm. Since C = pi d, multiplying the circumference by 3 also multiplies the diameter by 3. The diameter is 12 x 3 = 36 cm.

Accept equivalent exact forms, such as pi x 6 or 2pi(5), for answers in terms of pi. For problems that specify pi = 3.14, accept only the matching decimal result.