

Circle Ratio Quest

Find π by comparing circumference and diameter.

GRADE 7 • TEKS 7.5.B

7.5.B "describe π as the ratio of the circumference of a circle to its diameter; and"

NAME _____

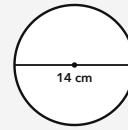
DATE _____

THE CIRCLE RATIO

For every circle, π is the ratio of its circumference to its diameter: $\pi = C/d$. When you measure a circle, divide the circumference by the diameter to get an estimate of π , often close to 3.14.

WORKED EXAMPLE

The circle shown has a measured circumference of 44 cm. Find C/d .

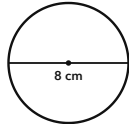


1. Write the ratio: $C/d = 44/14$.
2. Simplify $44/14$ by dividing both numbers by 2.
3. $44/14 = 22/7$.

Answer: 22/7, an estimate of π

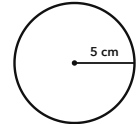
PRACTICE 6 problems

- 1** The circle shown has a measured circumference of 25.12 cm. Find C/d .



ANSWER _____

- 2** The circle shown has a measured circumference of 31.4 cm. Find C/d .



ANSWER _____

- 3** A circle has a measured circumference of 18.84 m and a diameter of 6 m. Find C/d .

ANSWER _____

- 4** A circle has a measured circumference of 40.82 in. and a diameter of 13 in. Find C/d .

ANSWER _____

- 5** Jada says, " π means diameter divided by circumference." Is Jada correct? Write the correct ratio for π .

ANSWER _____

- 6** A circle has a measured circumference of 28.26 ft and a diameter of 9 ft. Find C/d .

ANSWER _____

APPLY IT Show your work

- 1** A student measures a circular drone landing pad for the robotics club. Its circumference is 50.24 cm, and its diameter is 16 cm. What estimate for π do the measurements give?

WORK SPACE

ANSWER _____

- 2** A music club measures a circular turntable mat. Its circumference is 75.36 cm, and its diameter is 24 cm. What estimate for π do the measurements give?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two circles were measured. Circle A has $C = 34.4$ cm and $d = 11$ cm. Circle B has $C = 59.7$ cm and $d = 19$ cm. Which measurement pair gives an estimate closer to 3.14? Show both ratios rounded to the nearest hundredth and explain.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	The circle shown has a measured circumference of 25.12 cm. Find C/d.	3.14
2	The circle shown has a measured circumference of 31.4 cm. Find C/d.	3.14
3	A circle has a measured circumference of 18.84 m and a diameter of 6 m. Find C/d.	3.14
4	A circle has a measured circumference of 40.82 in. and a diameter of 13 in. Find C/d.	3.14
5	Jada says, "n means diameter divided by circumference." Is Jada correct? Write the correct ratio for n.	No. $n = C/d$, circumference divided by diameter.
6	A circle has a measured circumference of 28.26 ft and a diameter of 9 ft. Find C/d.	3.14

PART 2 • APPLY IT

- 3.14** Divide circumference by diameter: $50.24/16 = 3.14$. The measured ratio estimates n.
- 3.14** Divide circumference by diameter: $75.36/24 = 3.14$. The measured ratio estimates n.

CHALLENGE

Circle B. Circle A: $34.4/11 \approx 3.13$. Circle B: $59.7/19 \approx 3.14$, so Circle B is closer to 3.14.

Accept equivalent division expressions, such as $25.12/8$, when a problem asks for C/d. For the challenge, accept unrounded ratios if the student correctly identifies Circle B and explains that its ratio is closer to 3.14.