

Math

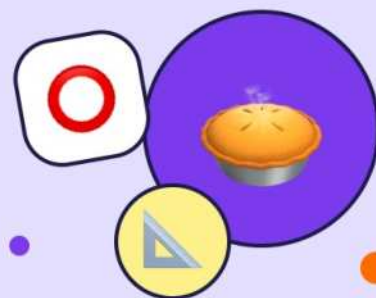
Grade 7

Pi Day worksheet: circumference and area of circles

On March 14 (3/14), use $\pi \approx 3.14$ to measure pies, pizzas and gardens.



I can use the formulas $C = \pi d$ and $A = \pi r^2$ to solve problems.



1 Circle table

Use $\pi \approx 3.14$. Fill in the diameter, circumference and area.



Circle	Radius	Diameter	Circumference	Area
A	1 in			
B	3 in			
C	5 in			
D	10 in			

2 Circle vocabulary

Draw a line from each term to its meaning.

☐ radius •

☐ diameter •

☐ circumference •

☐ π (pi) •

• A. The distance around a circle.

• B. The ratio of circumference to diameter, about 3.14.

• C. The distance from the center to the edge.

• D. The distance across a circle through the center.

3 Compare

Use $\pi \approx 3.14$ for circles. Write $>$, $<$ or $=$ in each circle.

circumference
when $d = 10$



30

π



$22/7$

area when $r = 2$



12

diameter when r
 $= 7$



14

4 Pie problems

Use $\pi \approx 3.14$. Circle the right answer.

1. A pizza has a diameter of 14 inches. What is its circumference?

A 21.98 in

B 43.96 in

C 153.86 in

2. A pie tin has a radius of 4 inches. What is the area of its bottom?

A 12.56 in^2

B 25.12 in^2

C 50.24 in^2

3. Why is Pi Day on March 14?

A Because 3/14 looks like 3.14

B Because pies are cheaper

C Because it is the first day of spring

5

1 2
3 4

Circle drill

Use $\pi \approx 3.14$. Write each answer.

1. $d = 4$ cm. $C =$ _____ cm

2. $d = 12$ ft. $C =$ _____ ft

3. $r = 9$ m. $C =$ _____ m

4. $r = 6$ cm. $A =$ _____ cm^2

5. $r = 7$ in. $A =$ _____ in^2

6. $d = 18$ cm. $r =$ _____ cm and $A =$ _____ cm^2

7. $C = 31.4$ ft. $d =$ _____ ft

8. $C = 25.12$ m. $r =$ _____ m

6



True or false

Circle True or False.

1. The diameter is always twice the radius.

True

False

2. If you double the radius, the area doubles.

True

False

3. If you double the diameter, the circumference doubles.

True

False

4. π is exactly 3.14.

True

False

5. A circle with $r = 5$ cm has an area of 78.5 cm^2 .

True

False

6. Circumference is measured in square units.

True

False

7 🍕 Pizza sizes

Use $\pi \approx 3.14$. Fill in the radius and the area of each pizza.

Pizza	Diameter	Radius	Area
Small	10 in		
Medium	12 in		
Large	16 in		

8 🍌 Circle challenges

Use $\pi \approx 3.14$. Circle the right answer.

- Which gives more pizza for your money: one 16-inch pizza for \$15 or two 10-inch pizzas for \$14?

☐ A Two 10-inch pizzas
 ☐ B One 16-inch pizza
 ☐ C They are the same deal.
- A bike wheel has a diameter of 26 inches. How far does it roll in one full turn?

☐ A 40.82 in
 ☐ B 81.64 in
 ☐ C 530.66 in
- A round rug has an area of 28.26 ft^2 . What is its radius?

☐ A 3 ft
 ☐ B 9 ft
 ☐ C 4.5 ft
- A circular track has a radius of 50 m. How long is one lap?

☐ A 7,850 m
 ☐ B 157 m
 ☐ C 314 m

9 🖋️ Garden fence

A circular garden has a diameter of 8 meters. How much fence goes around it? How much ground does it cover? Show your work.

How did it go?



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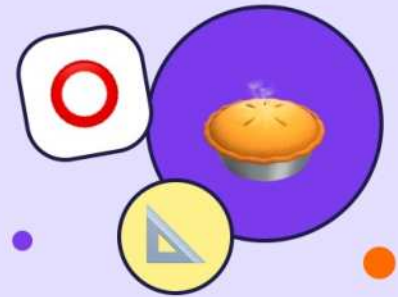
Answer key

Pi Day worksheet: circumference and area of circles

On March 14 (3/14), use $\pi \approx 3.14$ to measure pies, pizzas and gardens.



I can use the formulas $C = \pi d$ and $A = \pi r^2$ to solve problems.



1 Circle table

Use $\pi \approx 3.14$. Fill in the diameter, circumference and area.



Circle	Radius	Diameter	Circumference	Area
A	1 in	2 in	6.28 in	3.14 in ²
B	3 in	6 in	18.84 in	28.26 in ²
C	5 in	10 in	31.4 in	78.5 in ²
D	10 in	20 in	62.8 in	314 in ²

2 Circle vocabulary

Draw a line from each term to its meaning.

C radius •

D diameter •

A circumference •

B π (pi) •

• **A.** The distance around a circle.

• **B.** The ratio of circumference to diameter, about 3.14.

• **C.** The distance from the center to the edge.

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3 Compare

Use $\pi \approx 3.14$ for circles. Write $>$, $<$ or $=$ in each circle.

circumference
when $d = 10$

$>$

30

π

$<$

$22/7$

area when $r = 2$

$>$

12

diameter when r
 $= 7$

$=$

14

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Use $\pi \approx 3.14$. Circle the right answer.

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C 50.24 in^2

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A Because 3/14 looks like 3.14

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C Because it is the first day of spring

5

$\frac{12}{34}$

Circle drill

Use $\pi \approx 3.14$. Write each answer.

1. $d = 4$ cm. $C =$ 12.56 cm

2. $d = 12$ ft. $C =$ 37.68 ft

3. $r = 9$ m. $C =$ 56.52 m

4. $r = 6$ cm. $A =$ 113.04 cm^2

5. $r = 7$ in. $A =$ 153.86 in^2

6. $d = 18$ cm. $r =$ 9 cm and $A =$ 254.34 cm^2

7. $C = 31.4$ ft. $d =$ 10 ft

8. $C = 25.12$ m. $r =$ 4 m

6



True or false

Circle True or False.

1. The diameter is always twice the radius.

True

False

2. If you double the radius, the area doubles.

True

False

3. If you double the diameter, the circumference doubles.

True

False

4. π is exactly 3.14.

True

False

5. A circle with $r = 5$ cm has an area of 78.5 cm^2 .

True

False

6. Circumference is measured in square units.

True

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Use $\pi \approx 3.14$. Fill in the radius and the area of each pizza.

Pizza	Diameter	Radius	Area
Small	10 in	5 in	78.5 in ²
Medium	12 in	6 in	113.04 in ²
Large	16 in	8 in	200.96 in ²

8 🍌 Circle challenges

Use $\pi \approx 3.14$. Circle the right answer.

1. Which gives more pizza for your money: one 16-inch pizza for \$15 or two 10-inch pizzas for \$14?

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☐ C They are the same deal.

2. A bike wheel has a diameter of 26 inches. How far does it roll in one full turn?

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☒ B 81.64 in

☐ C 530.66 in

3. A round rug has an area of 28.26 ft². What is its radius?

☒ A 3 ft

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☐ C 4.5 ft

4. A circular track has a radius of 50 m. How long is one lap?

☐ A 7,850 m

☐ B 157 m

☒ C 314 m

9 🖋️ Garden fence

A circular garden has a diameter of 8 meters. How much fence goes around it? How much ground does it cover? Show your work.

Fence: $C = \pi d = 3.14 \times 8 = 25.12$ m. Area: $r = 4$, $A = \pi r^2 = 3.14 \times 16 = 50.24$ m².

How did it go?



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