

## Circumference Of A Circle Worksheet Answer Key PDF

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### Part 1: Building a Foundation

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**What is the formula for the circumference of a circle using the radius?**

undefined. A)  $C = \pi r^2$

**undefined. B)  $C = 2\pi r$  ✓**

undefined. C)  $C = \pi / r$

undefined. D)  $C = \pi d$

The correct formula for the circumference using the radius is  $C = 2\pi r$ .

**Which of the following statements are true about the diameter of a circle? (Select all that apply)**

**undefined. A) The diameter is twice the radius. ✓**

undefined. B) The diameter is half the circumference.

**undefined. C) The diameter is the longest chord in a circle. ✓**

undefined. D) The diameter is equal to the radius.

The true statements are that the diameter is twice the radius and the longest chord in a circle.

**Explain in your own words what the circumference of a circle represents.**

**Circumference represents the distance around the circle.**

**Provide the approximate value of  $\pi$  and explain its significance in calculating the circumference of a circle.**

1. What is the approximate value of  $\pi$ ?

**3.14**

2. Why is  $\pi$  significant?

**It relates the circumference to the diameter.**

The approximate value of  $\pi$  is 3.14, and it is crucial for calculating circumference as it relates the diameter to the circumference.

## Part 2: comprehension and Application

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**If the diameter of a circle is 10 cm, what is the circumference?**

undefined. **A) 31.4 cm** ✓

undefined. B) 15.7 cm

undefined. C) 20 cm

undefined. D) 62.8 cm

The circumference is 31.4 cm when using the formula  $C = \pi d$ .

**Which of the following can be used to calculate the circumference of a circle? (Select all that apply)**

undefined. **A) Radius** ✓

undefined. **B) Diameter** ✓

undefined. C) Area

undefined. **D)  $\pi$**  ✓

Radius, diameter, and  $\pi$  can all be used to calculate circumference.

**Describe how changing the radius of a circle affects its circumference.**

**Increasing the radius increases the circumference proportionally, as circumference is directly related to radius.**

**A circular garden has a radius of 7 meters. What is the circumference of the garden?**

undefined. A) 14 meters

undefined. B) 21.98 meters

undefined. **C) 43.96 meters** ✓

undefined. D) 28 meters

The circumference of the garden is approximately 43.96 meters.

**You are designing a circular track with a diameter of 50 meters. Which of the following measurements could represent the circumference of the track? (Select all that apply)**

**undefined. A) 157 meters ✓**

undefined. B) 78.5 meters

**undefined. C) 314 meters ✓**

undefined. D) 100 meters

The possible circumferences are 157 meters and 314 meters.

**Calculate the circumference of a circle with a radius of 15 cm. Show your work.**

**The circumference is 94.2 cm, calculated using  $C = 2\pi(15)$ .**

### Part 3: Analysis, Evaluation, and Creation

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**If the circumference of a circle is 31.4 cm, what is the radius?**

**undefined. A) 5 cm ✓**

undefined. B) 10 cm

undefined. C) 15 cm

undefined. D) 20 cm

The radius is 5 cm when calculated from the circumference.

**Which of the following relationships are correct? (Select all that apply)**

**undefined. A) If the radius doubles, the circumference doubles. ✓**

undefined. B) If the diameter is halved, the circumference is halved.

**undefined. C) If the circumference is known, the radius can be calculated. ✓**

**undefined. D) If the radius is tripled, the circumference is tripled. ✓**

The correct relationships are that if the radius doubles, the circumference doubles, and if the circumference is known, the radius can be calculated.

**Analyze the effect of using an incorrect value for  $\pi$  in calculating the circumference. How would this impact the result?**

**Using an incorrect value for  $\pi$  would lead to inaccurate calculations of circumference, affecting any related measurements.**

**A circular racetrack is designed with a circumference of 400 meters. What is the approximate radius of the track?**

**undefined. A) 63.66 meters ✓**

undefined. B) 127.32 meters

undefined. C) 200 meters

undefined. D) 100 meters

The approximate radius of the track is 63.66 meters.

**Evaluate the following scenarios and determine which would result in a larger circumference. (Select all that apply)**

**undefined. A) A circle with a radius of 10 cm. ✓**

undefined. B) A circle with a diameter of 15 cm.

undefined. C) A circle with a radius of 8 cm.

**undefined. D) A circle with a diameter of 20 cm. ✓**

The larger circumferences would be from the circle with a diameter of 20 cm and the circle with a radius of 10 cm.

**Design a real-world problem involving the circumference of a circle. Describe the problem and provide a solution.**

**A real-world problem could involve calculating the amount of fencing needed for a circular garden, using the circumference formula.**