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Circumference Of A Circle Worksheet Questions and Answers PDF

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Part 1: Building a Foundation

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

Hint: Recall the formulas related to circles.

○ A) $C = \pi r^2$
○ **B) $C = 2\pi r$ ✓**
○ C) $C = \pi / r$
○ 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)

Hint: Think about the relationship between radius and diameter.

☐ **A) The diameter is twice the radius. ✓**
☐ B) The diameter is half the circumference.
☐ **C) The diameter is the longest chord in a circle. ✓**
☐ 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.

Hint: Consider what circumference measures in relation to the circle.

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

Provide the approximate value of π and explain its significance in calculating the circumference of a circle.

Hint: Recall the common approximation of π.

1. What is the approximate value of π?

> 3.14

2. Why is π significant?

> It relates the circumference to the diameter.

> The approximate value of π is 3.14, and it is crucial for calculating circumference as it relates the diameter to the circumference.

Part 2: comprehension and Application

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

Hint: Use the formula C = π d.

- ○ **A) 31.4 cm ✓**
- ○ B) 15.7 cm
- ○ C) 20 cm
- ○ D) 62.8 cm

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The circumference is 31.4 cm when using the formula C = π d.

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

Hint: Think about the measurements related to circles.

☐ **A) Radius ✓**
☐ **B) Diameter ✓**
☐ C) Area
☐ **D) π ✓**

Radius, diameter, and π can all be used to calculate circumference.

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

Hint: Consider the relationship between radius and 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?

Hint: Use the formula C = 2πr.

◯ A) 14 meters
◯ B) 21.98 meters
◯ **C) 43.96 meters ✓**
◯ 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)

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Hint: Use the formula C = π d to calculate.

☐ **A) 157 meters** ✓
☐ B) 78.5 meters
☐ **C) 314 meters** ✓
☐ 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.

Hint: Use the formula C = 2πr.

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| **The circumference is 94.2 cm, calculated using C = 2π(15).**

Part 3: Analysis, Evaluation, and Creation

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

Hint: Use the formula C = 2πr to find the radius.

○ **A) 5 cm** ✓
○ B) 10 cm
○ C) 15 cm
○ D) 20 cm

| The radius is 5 cm when calculated from the circumference.

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

Hint: Consider how changes in radius and diameter affect circumference.

☐ **A) If the radius doubles, the circumference doubles.** ✓
☐ B) If the diameter is halved, the circumference is halved.

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☐ **C) If the circumference is known, the radius can be calculated. ✓**
☐ **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 π in calculating the circumference. How would this impact the result?

Hint: Consider the implications of approximation.

> **Using an incorrect value for π 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?

Hint: Use the formula C = 2πr to find the radius.

○ **A) 63.66 meters ✓**
○ B) 127.32 meters
○ C) 200 meters
○ 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)

Hint: Consider the relationships between radius and diameter.

☐ **A) A circle with a radius of 10 cm. ✓**
☐ B) A circle with a diameter of 15 cm.
☐ C) A circle with a radius of 8 cm.
☐ **D) A circle with a diameter of 20 cm. ✓**

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> 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.

Hint: Think about practical applications of circumference.

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

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