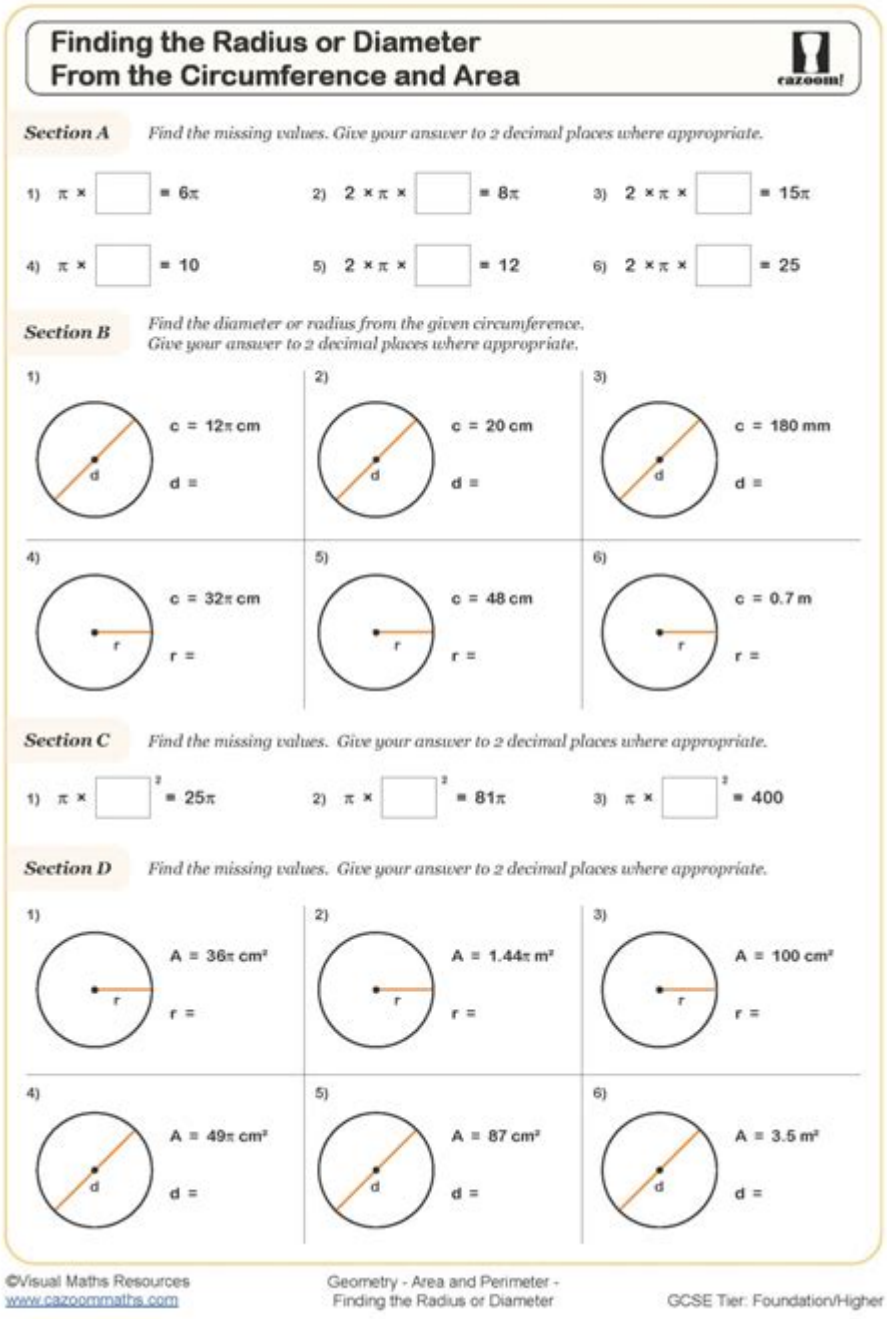
Finding Radius And Diameter From Circumference Worksheet



Finding the Radius or Diameter From the Circumference and Area

razoom!

Section A *Find the missing values. Give your answer to 2 decimal places where appropriate.*

1) $\pi \times \square = 6\pi$ 2) $2 \times \pi \times \square = 8\pi$ 3) $2 \times \pi \times \square = 15\pi$

4) $\pi \times \square = 10$ 5) $2 \times \pi \times \square = 12$ 6) $2 \times \pi \times \square = 25$

Section B *Find the diameter or radius from the given circumference. Give your answer to 2 decimal places where appropriate.*

1) $c = 12\pi$ cm, $d =$ 2) $c = 20$ cm, $d =$ 3) $c = 180$ mm, $d =$

4) $c = 32\pi$ cm, $r =$ 5) $c = 48$ cm, $r =$ 6) $c = 0.7$ m, $r =$

Section C *Find the missing values. Give your answer to 2 decimal places where appropriate.*

1) $\pi \times \square^2 = 25\pi$ 2) $\pi \times \square^2 = 81\pi$ 3) $\pi \times \square^2 = 400$

Section D *Find the missing values. Give your answer to 2 decimal places where appropriate.*

1) $A = 36\pi$ cm², $r =$ 2) $A = 1.44\pi$ m², $r =$ 3) $A = 100$ cm², $r =$

4) $A = 49\pi$ cm², $d =$ 5) $A = 87$ cm², $d =$ 6) $A = 3.5$ m², $d =$

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Geometry - Area and Perimeter - Finding the Radius or Diameter

GCSE Tier: Foundation/Higher

Finding radius and diameter from circumference worksheet is an essential tool for students learning about the properties of circles. Understanding the relationship between circumference, radius, and diameter not only enhances mathematical skills but also lays the groundwork for geometry concepts that are applicable in various real-world scenarios. This article will delve into the formulas used to find the radius and diameter from the circumference, provide examples, and suggest effective worksheets to aid in this learning process.

Understanding the Basics

Before we dive into the worksheet and practical applications, let's first understand the basic concepts related to circles:

Circle Definitions

1. Circumference: The circumference of a circle is the total distance around it. It can be thought of as the perimeter for circular shapes.
2. Radius: The radius is the distance from the center of the circle to any point on its circumference.
3. Diameter: The diameter is the distance across the circle, passing through the center. It is twice the length of the radius.

Formulas

The relationships between circumference, radius, and diameter can be expressed through the following formulas:

- Circumference (C):
$$
C = 2\pi r
$$
where r is the radius and π (Pi) is approximately 3.14 or can be represented more accurately as $\frac{22}{7}$.

- Diameter (D):
$$
D = 2r
$$
This means the diameter is twice the radius.

- Finding Radius from Circumference: Rearranging the circumference formula gives us:
$$
r = \frac{C}{2\pi}
$$

- Finding Diameter from Circumference: From the circumference formula, we can also derive the diameter:
$$
D = \frac{C}{\pi}
$$

Creating a Worksheet: Finding Radius and Diameter from Circumference

A well-structured worksheet can significantly enhance the learning experience. Below are suggested sections and example problems to include in a worksheet.

Section 1: Introduction

Begin the worksheet with a brief introduction to circles, emphasizing the importance of understanding how to determine radius and diameter from circumference. Include definitions and the formulas provided above.

Section 2: Example Problems

Provide a few example problems that illustrate how to use the formulas. Here are some sample problems:

1. Example 1: If the circumference of a circle is 31.4 cm, what is the radius?
- Solution:
$$
r = \frac{C}{2\pi} = \frac{31.4}{2 \times 3.14} = 5 \text{ cm}
$$

2. Example 2: A circular garden has a circumference of 62.8 m. What is the diameter?
- Solution:
$$
D = \frac{C}{\pi} = \frac{62.8}{3.14} = 20 \text{ m}
$$

3. Example 3: The circumference of a bike tire is 78.5 inches. Find the radius.
- Solution:
$$
r = \frac{C}{2\pi} = \frac{78.5}{2 \times 3.14} \approx 12.5 \text{ inches}
$$

Section 3: Practice Problems

After the examples, include a series of practice problems for students to solve. This section should have varying levels of difficulty:

- Practice Problem 1: The circumference of a circular pool is 31.4 ft. Find the radius.
- Practice Problem 2: A circular track has a circumference of 100 m. What is the diameter?
- Practice Problem 3: If a pizza has a circumference of 62.8 cm, what is the radius?
- Practice Problem 4: A circular fountain has a circumference of 50.24 m. Calculate the diameter.

Section 4: Answer Key

Include an answer key for the practice problems to allow students to check their work.

1. Answer 1: 5 ft
2. Answer 2: 31.83 m
3. Answer 3: 10 cm
4. Answer 4: 16 m

Real-World Applications

Understanding how to find the radius and diameter from circumference has practical implications in various fields. Here are a few examples:

Engineering and Design

In engineering, the ability to calculate the dimensions of circular components (like gears, pipes, and wheels) is crucial. Accurate measurements ensure that parts fit together correctly, enhancing functionality and safety.

Architecture

Architects often incorporate circular designs in their buildings. Knowing how to find the dimensions based on the circumference allows for better planning and execution of architectural features such as domes, arches, and columns.

Everyday Life

From measuring the dimensions of a round table to determining the size of a circular garden, the ability to calculate radius and diameter from circumference is useful in everyday life.

Tips for Mastering the Concepts

Here are some tips to help students master the concept of finding radius and diameter from circumference:

1. Practice Regularly: Consistent practice helps reinforce the formulas and their applications.
2. Visual Aids: Use diagrams to represent circles, marking the radius and diameter to visually understand the relationships.
3. Group Study: Collaborate with peers to solve problems, discuss concepts, and quiz each other on

the formulas.
4. Use Technology: Online calculators and apps can provide instant feedback and additional practice opportunities.

Conclusion

In summary, the finding radius and diameter from circumference worksheet is a valuable educational tool that aids students in grasping the essential properties of circles. By practicing with example and real-world problems, students enhance their mathematical proficiency and prepare for more advanced geometric concepts. Understanding how to derive radius and diameter from circumference not only fosters academic growth but also equips students with skills applicable in various professions and everyday situations.

Frequently Asked Questions

What is the formula to find the radius from the circumference of a circle?

The formula to find the radius (r) from the circumference (C) is r = C / (2π).

How can I calculate the diameter if I know the circumference?

You can calculate the diameter (d) using the formula d = C / π, where C is the circumference.

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

To find the radius, use the formula r = C / (2π). So, r = 31.4 / (2 π) ≈ 5 cm.

What is the relationship between diameter, radius, and circumference?

The diameter is twice the radius (d = 2r), and the circumference is related to both by the formula C = πd or C = 2πr.

Where can I find worksheets for practicing radius and diameter calculations from circumference?

You can find worksheets for radius and diameter calculations on educational websites, math resource platforms, or by searching for 'circumference worksheets' online.

Finding Radius And Diameter From Circumference Worksheet

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Apr 5, 2024 · Confusingly, I appeared to receive 10 points just from clicking the tile and then no points after completing the quiz (so maybe you need to get the correct answers which I did not.)

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THE 10 BEST Pizza Places in Seattle (Updated 2025) - Tripadvisor
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