All In One Worksheet: Non Right Angled Trigonometry Part II - Sine Rule For Angles

Welcome to the second part of our comprehensive non-right angled trigonometry worksheet series! In this installment, we will delve into the intricacies of the sine rule, a fundamental theorem in trigonometry that enables us to solve a wide range of problems involving triangles and angles. Through clear explanations, step-by-step examples, and challenging exercises, this worksheet will provide you with a thorough understanding of the sine rule and its applications.

All in One Worksheet - Non-Right-Angled Trigonometry - Part II - Sine Rule for Angles by Scott Flansburg

★★★★☆ 4.6 out of 5

Language	: English
File size	: 393 KB
Screen Reader	: Supported
Print length	: 380 pages
X-Ray for textbooks	: Enabled

Understanding the Sine Rule

The sine rule, also known as the sine formula, is a crucial tool in trigonometry that relates the lengths of sides in a triangle to the sines of their opposite angles. It states that in any triangle ABC, the following equation holds:

$a/\sin(A) = b/\sin(B) = c/\sin(C)$

where a, b, and c are the lengths of the sides opposite angles A, B, and C, respectively.

Applying the Sine Rule

The sine rule has a wide range of applications in trigonometry, including:

- Solving for missing side lengths in triangles

- Finding missing angles in triangles

- Determining the area of triangles

- Solving real-world problems involving triangles and angles

Worksheet Instructions

1. Carefully read the instructions and examples provided.

2. Attempt the practice exercises independently.

3. Check your answers against the answer key provided.

4. Review any incorrect answers and seek clarification if needed.

5. Complete the reflection questions to assess your understanding.

Exercises

1. Find the length of side BC in triangle ABC, given that AB = 10 cm, AC = 12 cm, and angle B = 30 degrees.

2. Solve for angle C in triangle PQR, given that PQ = 8 cm, QR = 10 cm, and PR = 12 cm.

3. Determine the area of triangle XYZ, given that XY = 15 cm, YZ = 12 cm, and angle Y = 45 degrees.

4. A surveyor measures the distances from point A to two landmarks, B and C, as 100 meters and 120 meters, respectively. The angle between the two distances is measured as 60 degrees. Find the distance between landmarks B and C.

5. A ladder is leaning against a wall, forming an angle of 30 degrees with the ground. The bottom of the ladder is 5 meters from the base of the wall. Find the height of the ladder.

Answer Key

1. 6 cm

2. 53.13 degrees

3. 45 square cm

4. 80 meters

5. 4.33 meters

Reflection Questions

1. Explain the significance of the sine rule in trigonometry.

2. Describe how to apply the sine rule to solve for missing side lengths in triangles.

3. Discuss the real-world applications of the sine rule.

By completing this comprehensive non-right angled trigonometry worksheet, you have gained a solid understanding of the sine rule and its applications. Remember to practice regularly to master the concepts and enhance your trigonometry skills. For further practice, explore our other trigonometry worksheets and resources.

Thank you for using our worksheet! We believe that through diligent practice and a commitment to learning, you can achieve success in your trigonometry endeavors.
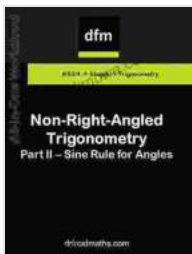
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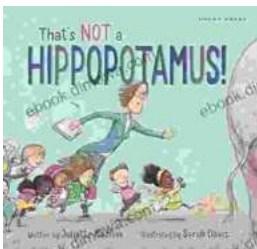|	
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