

8-6 Law-of-Sines - Only Triangle Area

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EQ: Can you find the area of a triangle using two sides and an included angle?

How are you doing? Write answer next to Essential Question

1. I don't understand the material
2. I understand a little.
3. I understand this material.
4. I could teach this to someone



Summary: At least 3 sentences...

8.6 Examples Geo done

odd page

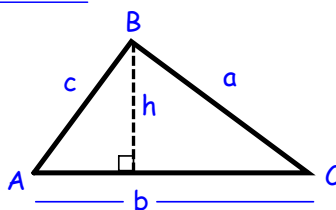
Area of a Triangle -

$$A = \frac{1}{2}(\text{base})(\text{height})$$

$$\text{Area} = \frac{1}{2}(b)(c \sin A)$$

$$\text{Area} = \frac{1}{2}bc \sin A$$

KEY TERMS



$$\sin A = \frac{h}{c}$$

$$h = c \sin A$$

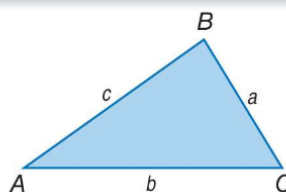
8.6 Examples Geo done

Key Concept Area of a Triangle

Words The area of a triangle is one half the product of the lengths of two sides and the sine of their included angle.

Symbols

$$\text{Area} = \frac{1}{2}bc \sin A = \frac{1}{2}ac \sin B = \frac{1}{2}ab \sin C$$

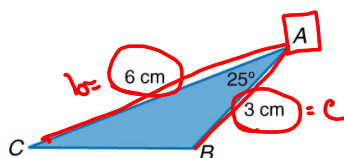


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Example 1 Find the Area of a Triangle

Find the area of $\triangle ABC$ to the nearest tenth.

$$\begin{aligned}\text{Area} &= \frac{1}{2}bc\sin A \\ &= \frac{1}{2}(6)(3)\sin 25^\circ \\ &= \underline{3.8} \text{ cm}^2\end{aligned}$$



8.6 Examples Geo done

Example 1

Guided Practice

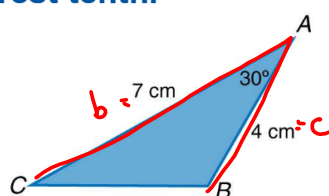
Find the area of $\triangle ABC$ to the nearest tenth.

A. 2 cm^2

B. 5 cm^2

C. 7 cm^2

D. 14 cm^2



$$m\angle A = 30^\circ$$

$$\text{Area} = \frac{1}{2} b c \sin A$$
$$= \frac{1}{2} (7)(4) \sin 30^\circ$$

$$\approx 7 \text{ cm}^2$$

C

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EQ: Can you find the area of a triangle using two sides and an included angle?

Write 3 Questions for this section on the left page

1. How are you doing?

Write answer next to the Summary

- 1: I don't understand the material.
- 2: I understand a little.
- 3: I understand this material.
- 4: I could teach this to someone.

Summary: At least 3 sentences...

Write this now.