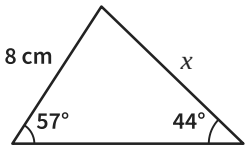
Sine rule: finding a side

Exit ticket ANSWERS Name _____

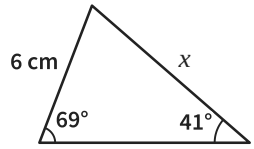
1 Write the sine rule for this triangle with the numbers in.

$\frac{x}{\sin 57^\circ} = \frac{8}{\sin 44^\circ}$



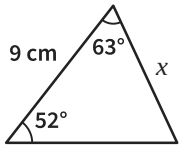
2 Find x. Give your answer to 1 decimal place.

$x =$ 8.5 cm



3 Find x. Give your answer to 1 decimal place.

$x =$ 7.8 cm



The Maths Habit

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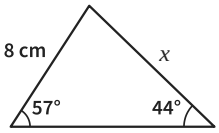
Exit ticket Sine rule: finding a side

NEXT LESSON

1 **Write the sine rule for this triangle with the numbers in.**



$\frac{x}{\sin 57^\circ} = \frac{8}{\sin 44^\circ}$

TESTS Pairing each side with the angle opposite it, in the frame

LOOK FOR $\frac{x}{\sin 44^\circ} = \frac{8}{\sin 57^\circ}$ the angles swapped: each side over the other side's angle

$\frac{x}{\sin 79^\circ} = \frac{8}{\sin 44^\circ}$ x paired with the third angle, 79°, which touches it

FIX IT

x is opposite 63° and a side of 11 cm is opposite 49°. Write the sine rule with the numbers in. $\frac{x}{\sin 63^\circ} = \frac{11}{\sin 49^\circ}$

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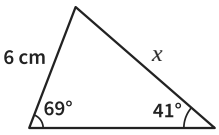
2 **Find x. Give your answer to 1 decimal place.**



$x = 8.5$ cm

TESTS The whole method: the frame, x = side × sin ÷ sin, 1 decimal place

LOOK FOR 4.2 cm the sines upside down: 6 × sin 41° ÷ sin 69°

8.6 cm used the third angle, 70°, for x

FIX IT

A side x is opposite 74°. A side of 7 cm is opposite 52°. Find x to 1 decimal place. 8.5 cm

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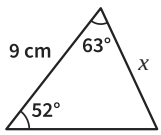
3 **Find x. Give your answer to 1 decimal place.**



$x = 7.8$ cm

TESTS The third angle first: the angle opposite the known side is 180° take the other two

LOOK FOR 8.0 cm used 63° as the angle opposite 9 cm: it touches 9 cm

10.2 cm used 63° and turned the sines upside down

FIX IT

In triangle ABC, angle A = 48°, angle C = 71° and AC = 10 cm. Find BC to 1 decimal place. 8.5 cm