

G 4-2

SOH

CAH

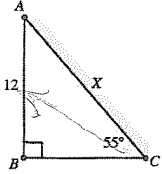
TOA

G4a. I can solve for missing sides in a triangle using sine, cosine, tangent, and the Pythagorean theorem.

In a right triangle....

$$\sin(\theta) = \frac{\text{opposite side}}{\text{hypotenuse}}$$

Example:
Solve for x.

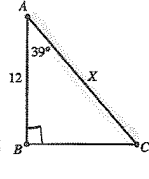


$$\sin(55^\circ) = \frac{12}{x}$$

In a right triangle....

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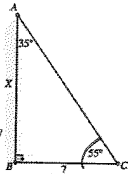


$$\cos(39^\circ) = \frac{12}{x}$$

In a right triangle....

$$\tan(\theta) = \frac{\text{opposite side}}{\text{adjacent side}}$$

Example:
Solve for x.



$$\tan(55^\circ) = \frac{7}{x}$$

$$x \cdot \sin(55^\circ) = 12$$

$$\frac{x \cdot \sin(55^\circ)}{\sin(55^\circ)} = \frac{12}{\sin(55^\circ)}$$

$$x = \frac{12}{.82} = 14.63$$

$$x \cdot \cos(39^\circ) = 12$$

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$$x = \frac{12}{.78} = 15.38$$

$$7 \cdot \tan(55^\circ) = x$$

$$7(1.43) = x$$

$$10.01 = x$$

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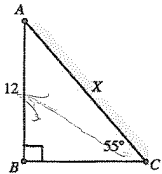
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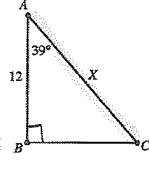


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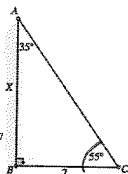


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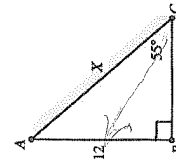
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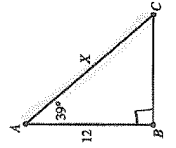
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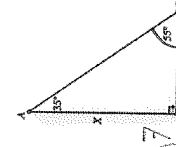
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