

# Basic Trig Ratios SOHCAHTOA

What is a  
Trig Ratio?

Find the  
Sine of an  
Angle

Find the  
Cosine of an  
Angle

Find the  
Tangent of  
an Angle

Thank you for buying my foldable!

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### Instructions

Print or copy page 3 and 4 double sided.

Place the paper so the examples are face down.

Cut along the dotted lines to create flaps.

Flip and fold the flaps inwards.

Glue the foldable into notes or on a piece of construction paper.

Go through the foldable with your students.

**Find the  
Sine of an  
Angle**

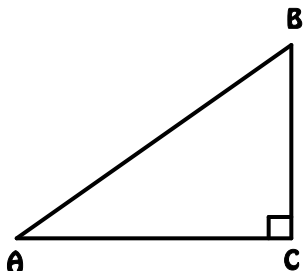
**What is a Trig  
Ratio?**

# **Preview**

**Find the  
Tangent of an  
Angle**

**Find the  
Cosine of an  
Angle**

A Trigonometric Ratio is a ratio of the lengths of two sides of a right triangle. The three basic trig ratios are sine, cosine, and tangent.



Sine = opposite over Hypotenuse  
 Cosine = adjacent over Hypotenuse  
 Tangent = opposite over adjacent

### Trig Ratios

$$\text{Sine} = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\sin A = \quad \sin B =$$

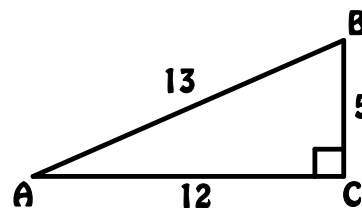
$$\text{Cosine} = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\cos A = \quad \cos B =$$

$$\text{Tangent} = \frac{\text{opposite}}{\text{adjacent}}$$

$$\tan A = \quad \tan B =$$

### Finding the Sine of an Angle



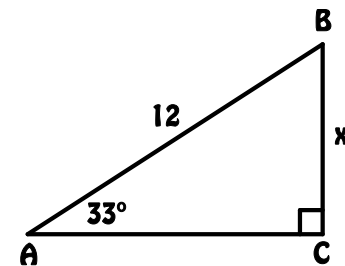
1) What is the  $\sin A$ ?

$$\sin A =$$

2) What is the  $\sin B$ ?

$$\sin B =$$

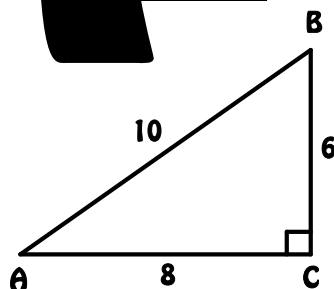
### Solving A Right Triangle Using Sine



3) Find the value of x.

# Preview

### Finding the Cosine of an Angle



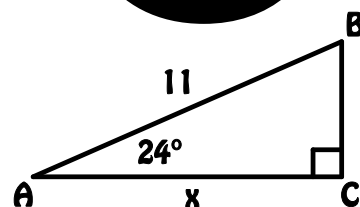
4) What is the  $\cos A$ ?

$$\cos A =$$

5) What is the  $\cos B$ ?

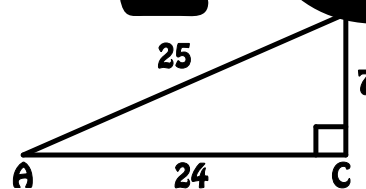
$$\cos B =$$

### Solving A Right Triangle Using Cosine



6) Find the value of x.

### Finding the Tangent of an Angle



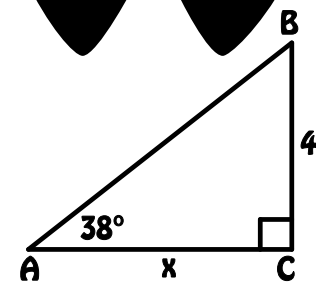
7) What is the  $\tan A$ ?

$$\tan A =$$

8) What is the  $\tan B$ ?

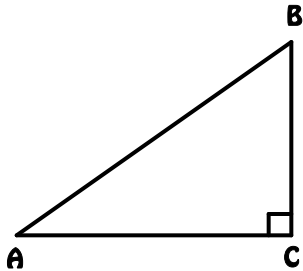
$$\tan B =$$

### Solving A Right Triangle Using Sine



9) Find the value of x.

A **Trigonometric Ratio** is a ratio of the lengths of two sides of a right triangle. The three basic trig ratios are sine, cosine, and tangent.



Sine = opposite over Hypotenuse  
 Cosine = adjacent over Hypotenuse  
 Tangent = opposite over adjacent

### Trig Ratios

$$\text{Sine} = \frac{\text{opposite}}{\text{hypotenuse}}$$

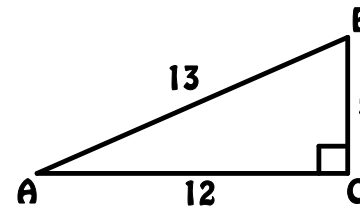
$$\sin A = \frac{BC}{AB} \quad \sin B = \frac{AC}{AB}$$

$$\text{Cosine} = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\cos A = \frac{AC}{AB} \quad \cos B = \frac{BC}{AB}$$

$$\text{Tangent} = \frac{\text{opposite}}{\text{adjacent}}$$

### Finding the Sine of an Angle



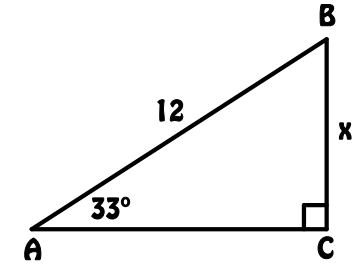
1) What is the  $\sin A$ ?

$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{5}{13}$$

2) What is the  $\sin B$ ?

$$\sin B = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{12}{13}$$

### Solving A Right Triangle Using Sine



3) Find the value of x.

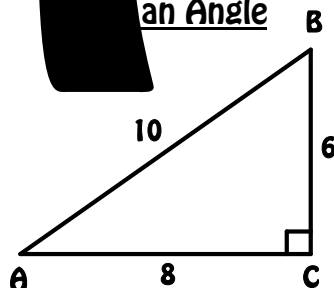
$$\sin 33^\circ = \frac{x}{12}$$

$$x = 12 \sin 33^\circ$$

$$x = 6.57$$

# Preview

### Finding the Cosine of an Angle



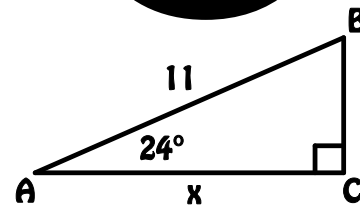
4) What is the  $\cos A$ ?

$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{8}{10} = \frac{4}{5}$$

5) What is the  $\cos B$ ?

$$\cos B = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{6}{10} = \frac{3}{5}$$

### Solving A Right Triangle Using Cosine



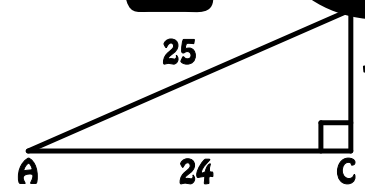
6) Find the value of x.

$$\cos 24^\circ = \frac{x}{11}$$

$$x = 11 \cos 24^\circ$$

$$x = 10.049$$

### Finding the Tangent of an Angle



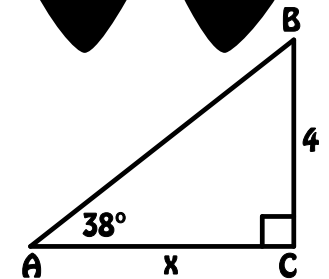
7) What is the  $\tan A$ ?

$$\tan A = \frac{\text{opposite}}{\text{adjacent}} = \frac{7}{24}$$

8) What is the  $\tan B$ ?

$$\tan B = \frac{\text{opposite}}{\text{adjacent}} = \frac{24}{7}$$

### Solving A Right Triangle Using Tangent



9) Find the value of x.

$$\tan 38^\circ = \frac{4}{x}$$

$$x \tan 38^\circ = 4$$

$$x = 4 / (\tan 38^\circ) = 5.1198$$