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
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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?

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.

**Trig Ratios**

Sine = \(\frac{\text{opposite}}{\text{hypotenuse}}\)

\[\sin A = \sin B =\]

Cosine = \(\frac{\text{adjacent}}{\text{hypotenuse}}\)

\[\cos A = \cos B =\]

Tangent = \(\frac{\text{opposite}}{\text{adjacent}}\)

\[\tan A = \tan B =\]

**Finding the Sine of an Angle**

1) What is the \(\sin A\)?

\[\sin A = \]

2) What is the \(\sin B\)?

\[\sin B = \]

3) Find the value of \(x\).

**Finding the Cosine of an Angle**

4) What is the \(\cos A\)?

\[\cos A = \]

5) What is the \(\cos B\)?

\[\cos B = \]

6) Find the value of \(x\).

**Finding the Tangent of an Angle**

7) What is the \(\tan A\)?

\[\tan A = \]

8) What is the \(\tan B\)?

\[\tan B = \]

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.

Trig Ratios

Sine = \( \text{opposite} \over \text{hypotenuse} \)

\[
sinA = \frac{BC}{AB} \quad \sinB = \frac{AC}{AB}
\]

Cosine = \( \text{adjacent} \over \text{hypotenuse} \)

\[
cosA = \frac{AC}{AB} \quad \cosB = \frac{BC}{AB}
\]

Tangent = \( \text{opposite} \over \text{adjacent} \)

\[
tanA = \frac{BC}{AC} \quad tanB = \frac{AC}{BC}
\]

Finding the Sine of an Angle

1) What is the \( \text{sinA} \)?

\[
\text{sinA} = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{5}{13}
\]

2) What is the \( \text{sinB} \)?

\[
\text{sinB} = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{12}{13}
\]

Finding the Cosine of an Angle

3) Find the value of \( x \).

\[
\text{cos}33^\circ = \frac{x}{12}
\]

\[
x = 12 \times \text{cos}33^\circ
\]

\[
x = 10.049
\]

4) What is the \( \text{cosA} \)?

\[
\text{cosA} = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{8}{10} \frac{4}{5}
\]

5) What is the \( \text{cosB} \)?

\[
\text{cosB} = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{6}{10} \frac{3}{5}
\]

Finding the Tangent of an Angle

6) Find the value of \( x \).

\[
\text{cos}24^\circ = \frac{x}{25}
\]

\[
x = 25 \times \text{cos}24^\circ
\]

\[
x = 24.05
\]

7) What is the \( \text{tanA} \)?

\[
\text{tanA} = \frac{\text{opposite}}{\text{adjacent}} = \frac{7}{24}
\]

8) What is the \( \text{tanB} \)?

\[
\text{tanB} = \frac{\text{opposite}}{\text{adjacent}} = \frac{24}{7}
\]

Solving a Right Triangle Using Sine

9) Find the value of \( x \).

\[
\text{tan}38^\circ = \frac{4}{x}
\]

\[
x = 4 / (\text{tan}38^\circ) = 5.1198
\]