Today's Plan:

Learning Target (standard): I will find trigonometric values of angles in special right triangles. I will create walking paths.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

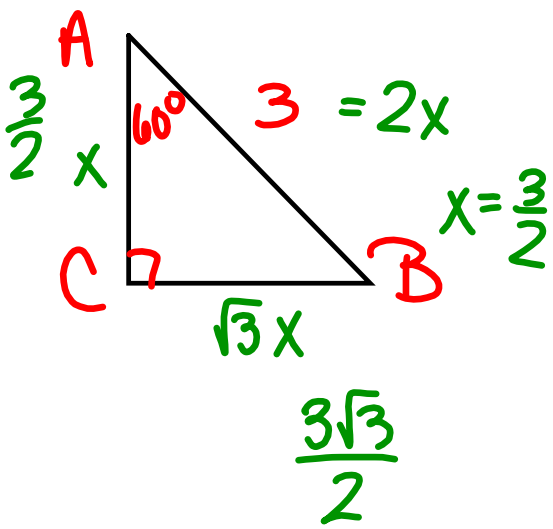
Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

Find the trig values for angle A given angle C is 90°.

$\angle A = 60°$

$AB = 3$



$$\sin A = \frac{\frac{3\sqrt{3}}{2}}{3} = \frac{3\sqrt{3}}{2} \cdot \frac{1}{3} = \frac{\sqrt{3}}{2}$$

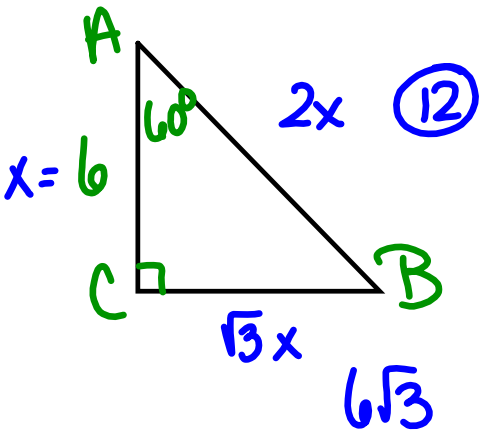
$$\cos A = \frac{\frac{3}{2}}{3} = \frac{3}{2} \cdot \frac{1}{3} = \frac{1}{2}$$

$$\tan A = \frac{\frac{3\sqrt{3}}{2}}{\frac{3}{2}} = \frac{3\sqrt{3}}{2} \cdot \frac{2}{3} = \sqrt{3}$$

Find the trig values for angle A given angle C is 90°.

$\angle A = 60°$

$AC = 6$



$\sin A = \frac{6\sqrt{3}}{12} = \frac{\sqrt{3}}{2}$

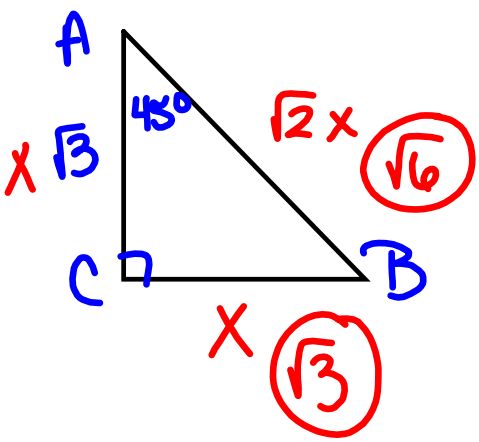
$\cos A = \frac{6}{12} = \frac{1}{2}$

$\tan A = \frac{6\sqrt{3}}{6} = \sqrt{3}$

Find the trig values for angle A given angle C is 90°.

$\angle A = 45°$

$AC = \sqrt{3}$



$\sin A = \frac{\sqrt{\cancel{3}}}{\sqrt{\cancel{6}2}} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

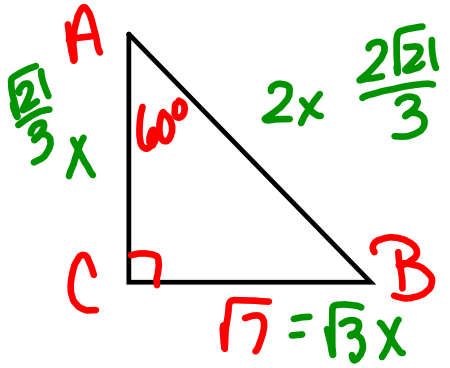
$\cos A = \frac{\sqrt{3}}{\sqrt{6}} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$\tan A = \frac{\sqrt{3}}{\sqrt{3}} = 1$

Find the trig values for angle A given angle C is 90°.

$\angle A = 60°$

$BC = \sqrt{7}$



$x = \frac{\sqrt{7}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$x = \frac{\sqrt{21}}{3}$

$\sin A = \frac{\sqrt{7}}{\frac{2\sqrt{21}}{3}} = \sqrt{7} \cdot \frac{3}{2\sqrt{21}} = \frac{3}{2\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$= \frac{3\sqrt{3}}{6} = \frac{\sqrt{3}}{2}$

$\cos A = \frac{\frac{\sqrt{21}}{3}}{\frac{2\sqrt{21}}{3}} = \frac{\sqrt{21}}{3} \cdot \frac{3}{2\sqrt{21}} = \frac{1}{2}$

$\tan A = \frac{\sqrt{7}}{\frac{\sqrt{21}}{3}} = \sqrt{7} \cdot \frac{3}{\sqrt{21}} = \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$= \frac{3\sqrt{3}}{3} = \sqrt{3}$

Walking Paths: (Trigonometric Angles)

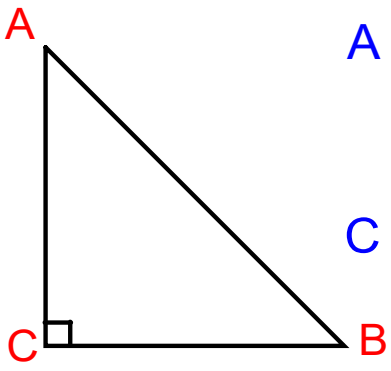
Packet: Walking Paths

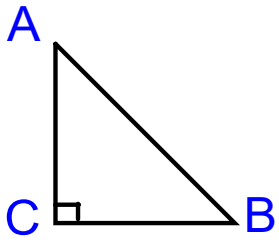
Homework 2 #1 - 4

* do these in notebook with the main question about angles having same trig values *

- Reasons why the paths differ
- Ways to make them the same

Why are the trigonometric values for a 30° (or 45° or 60°) angle within a right triangle the same regardless of the lengths of the sides of the triangle that the angle is in?





sin A =

cos A =

tan A =

sin A =

cos A =

tan A =