

Today's Plan:

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

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

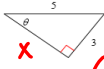
Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

1) $\tan \theta = \frac{1}{2}$	6) $\sin \theta = \frac{2}{3}$	11) $\cos \theta = \frac{1}{3}$	16) $\tan \theta = \frac{19}{22}$	
2) $\tan \theta = \frac{4}{3}$	7) $\tan \theta = \frac{4}{3}$	12) $\cos \theta = \frac{4}{5}$	17) $\sin \theta = \frac{3}{5}$	22) $\theta = 64.2^\circ$
3) $\cos \theta = \frac{4}{5}$	8) $\tan \theta = \frac{9\sqrt{7}}{35}$	13) $\tan \theta = \frac{3}{4}$	18) $\cos \theta = \frac{5}{13}$	23) $\theta = 71.8^\circ$
4) $\sin \theta = \frac{2}{3}$	9) $\tan \theta = \frac{24}{7}$	14) $\cos \theta = \frac{3}{5}$	19) $\theta = 48.6^\circ$	* Don't forget units on angles *
5) $\cos \theta = \frac{9}{10}$	10) $\tan \theta = 1$	15) $\sin \theta = \frac{3}{5}$	20) $\theta = 68.2^\circ$	
			21) $\theta = 46.6^\circ$	

Board Practice 2

Find the value of the trig function indicated. Show ALL steps!

1) $\cos \theta$



$x^2 + 3^2 = 5^2$ $\cos \theta = \frac{4}{5}$

$x^2 + 9 = 25$

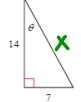
$\sqrt{x^2} = \sqrt{16}$

$x = 4, -4$

$\sin \theta = \frac{7}{7\sqrt{5}}$

$\sin \theta = \frac{\sqrt{5}}{5}$

2) $\sin \theta$




$x^2 = 14^2 + 7^2$

$x^2 = 196 + 49$

$\sqrt{x^2} = \sqrt{245}$

$x = 7\sqrt{5}, -7\sqrt{5}$

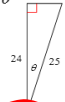
3) $\tan \theta$



$\tan \theta = \frac{20}{15}$

$\tan \theta = \frac{4}{3}$


4) $\cos \theta$



$\cos \theta = \frac{24}{25}$

-1-

5) $\tan \theta$



$\tan \theta = \frac{22}{19}$

$x^2 + 22^2 = (13\sqrt{5})^2$

$x^2 + 484 = 845$

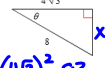
$\sqrt{x^2} = \sqrt{361}$

$x = 19, -19$

$\sin \theta = \frac{4}{8}$

$\sin \theta = \frac{1}{2}$

6) $\sin \theta$



$x^2 + (4\sqrt{5})^2 = 8^2$


$x^2 + 48 = 64$

$\sqrt{x^2} = \sqrt{16}$

$x = 4, -4$

Find the measure of each angle indicated. Round to the nearest tenth.

7)

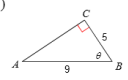


$\tan \theta = \frac{6}{7.8}$

$\tan^{-1}(\frac{6}{7.8}) = \theta$

$\theta = 37.6^\circ$

8)

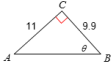


$\cos \theta = \frac{5}{9}$

$\cos^{-1}(\frac{5}{9}) = \theta$

$\theta = 56.3^\circ$

9)

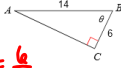


$\tan \theta = \frac{11}{9.9}$

$\tan^{-1}(\frac{11}{9.9}) = \theta$

$\theta = 48.0^\circ$

10)



$\cos \theta = \frac{6}{14}$

$\cos^{-1}(\frac{3}{7}) = \theta$

$\theta = 64.6^\circ$

-2-

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

$\angle A = 30^\circ$

$AC = 2\sqrt{2}$

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

$\sin A = \frac{2\sqrt{6}}{4\sqrt{6}} = \frac{2\sqrt{6}}{4\sqrt{6}} \cdot \frac{2}{2} = \frac{1}{2}$
 $\cos A = \frac{2\sqrt{2}}{4\sqrt{6}} = \frac{2\sqrt{2}}{1 \cdot 2 \cdot 4\sqrt{6}} \cdot \frac{3}{3} = \frac{3\sqrt{2}}{3\sqrt{3} \cdot 2\sqrt{6}} = \frac{3\sqrt{2}}{6\sqrt{18}} = \frac{3\sqrt{2}}{6 \cdot 3\sqrt{2}} = \frac{3\sqrt{2}}{18\sqrt{2}} = \frac{1}{6}$
 $\tan A = \frac{2\sqrt{6}}{2\sqrt{2}} = \frac{2\sqrt{6}}{3} \cdot \frac{1}{2\sqrt{2}} = \sqrt{3}$

3

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

$\angle A = 45^\circ$

$AB = \sqrt{5}$

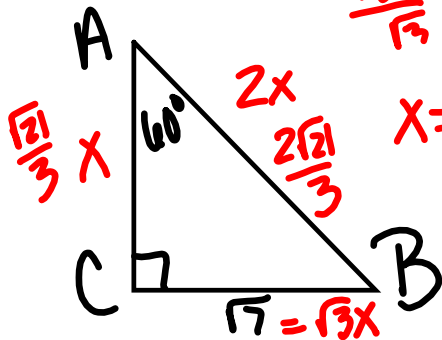
$\sqrt{2}x = \sqrt{5}$
 $x = \frac{\sqrt{5}}{\sqrt{2}}$

$\sin A = \frac{\frac{\sqrt{5}}{\sqrt{2}}}{\frac{\sqrt{5}}{\sqrt{2}}} = \frac{\sqrt{5}}{2} \cdot \frac{1}{\sqrt{5}} = \frac{\sqrt{2}}{2}$
 $\cos A = \frac{\frac{\sqrt{5}}{\sqrt{2}}}{\frac{\sqrt{5}}{\sqrt{2}}} = \frac{\sqrt{2}}{2}$
 $\tan A = \frac{\frac{\sqrt{5}}{\sqrt{2}}}{\frac{\sqrt{5}}{\sqrt{2}}} = 1$

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

$$\angle A = 60^\circ$$

$$BC = \sqrt{7}$$



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

$$\cos A = \frac{\frac{\sqrt{7}}{3}}{\frac{2\sqrt{7}}{3}} = \frac{\sqrt{7}}{2\sqrt{7}} = \frac{1}{2}$$

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

Assignment:

Worksheet 8-3 & 8-5

* label special right triangles *