



7-1 Lesson Quiz

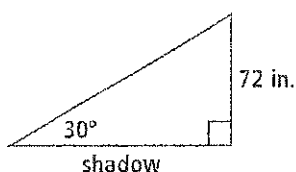
Trigonometric Functions and Acute Angles

- Knowing that $\cos \theta = \frac{5}{13}$, which of the following are other trigonometric ratios for θ ? Select **all** that apply.
 - $\sin \theta = \frac{13}{5}$
 - $\tan \theta = \frac{12}{5}$
 - $\cot \theta = \frac{5}{12}$
 - $\sec \theta = \frac{13}{5}$
 - $\csc \theta = \frac{13}{12}$
 - $\tan \theta = \frac{5}{12}$
- What are the sine and cosine ratios for a 30° - 60° - 90° triangle with a hypotenuse of 6, when $\theta = 60^\circ$?
 - $\sin \theta = \frac{\sqrt{3}}{2}$, $\cos \theta = \frac{1}{2}$
 - $\sin \theta = \frac{1}{2}$, $\cos \theta = \frac{2\sqrt{3}}{3}$
 - $\sin \theta = \frac{2\sqrt{3}}{3}$, $\cos \theta = \frac{1}{2}$
 - $\sin \theta = \frac{1}{2}$, $\cos \theta = \frac{\sqrt{3}}{2}$
- If $\tan \theta = \cot 40^\circ$, what is θ ?
 - 40°
 - 50°
 - 80°
 - 90°
- Complete each sentence with *sin*, *cos*, *tan*, *csc*, *sec*, or *cot*.

The reciprocal identity of _____ θ is $\frac{1}{\sec \theta}$.

The reciprocal identity of _____ θ is $\frac{1}{\csc \theta}$.

The reciprocal identity of _____ θ is $\frac{1}{\cot \theta}$.
- The sun shines at a 30° angle to the ground. To the nearest inch, how long is the shadow cast by a 72-inch tall fence post?



7-1 Trig Dominoes

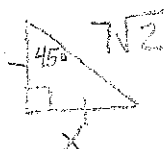
START | 5-12-13
3-4-5
6-8-10

$X=7$ | FINISH

$\cot 53^\circ$ | $\sin \theta = \frac{7}{25}$

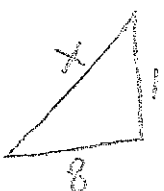
$\csc(90^\circ)$ | A 100ft. piece of rope is attached to the top of a flagpole. The other end of the rope is attached to the ground at a 35° angle. How tall is the flag pole?

$\frac{1}{\sin \theta}$ | $\sec \theta = \frac{32}{20}$

$X=17$ | 

$\tan \theta = \frac{7}{24}$ | use the reciprocal identity
 $\csc \theta =$

pythagorean triples | $\tan 40^\circ$
use the cofunctional identity

57.4 | 

$\sin \theta = \frac{48}{52}$ | cofunctional identity
or $\sin \theta = \frac{12}{13}$ | $\sec \theta =$

7-1 Additional Practice

Trigonometric Functions and Acute Angles

For items 1 and 2, use $\triangle ABC$.

1. Write the six trigonometric ratios for $\angle A$.

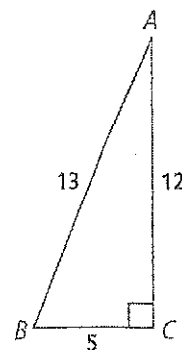
$$\sin A = \underline{\hspace{2cm}} \quad \cos A = \underline{\hspace{2cm}} \quad \tan A = \underline{\hspace{2cm}}$$

$$\csc A = \underline{\hspace{2cm}} \quad \sec A = \underline{\hspace{2cm}} \quad \cot A = \underline{\hspace{2cm}}$$

2. Write the six trigonometric ratios for $\angle B$.

$$\sin B = \underline{\hspace{2cm}} \quad \cos B = \underline{\hspace{2cm}} \quad \tan B = \underline{\hspace{2cm}}$$

$$\csc B = \underline{\hspace{2cm}} \quad \sec B = \underline{\hspace{2cm}} \quad \cot B = \underline{\hspace{2cm}}$$



3. What are the trigonometric ratios of θ in a right triangle with the given value $\tan A = \frac{9}{40}$?

$$\sin \theta = \underline{\hspace{2cm}} \quad \cos \theta = \underline{\hspace{2cm}} \quad \tan \theta = \underline{\hspace{2cm}}$$

$$\csc \theta = \underline{\hspace{2cm}} \quad \sec \theta = \underline{\hspace{2cm}} \quad \cot \theta = \underline{\hspace{2cm}}$$

4. A kite has a string that is 300 ft long. The flying kite forms a 62° angle with a horizontal line running parallel to the ground. The bottom end of the string is 6 ft off the ground. How high is the kite? Round your answer to the nearest tenth.

Find each length.

5. the length of the hypotenuse of a 45° - 45° - 90° triangle with a leg of 12

6. the length of the longer leg of a 30° - 60° - 90° triangle with a hypotenuse of 14, when $\theta = 60^\circ$

What is the cofunction identity for the given trigonometric ratio?

7. $\sin \theta = \underline{\hspace{2cm}}$ 8. $\sec \theta = \underline{\hspace{2cm}}$ 9. $\tan \theta = \underline{\hspace{2cm}}$

10. Given the value of the hypotenuse c for a 30° - 60° - 90° triangle, write the equations to represent sides a and b in terms of c . Assume a is the shorter leg.

11. Given the value of the hypotenuse c for a 45° - 45° - 90° triangle, write the equations to represent sides a and b in terms of c .