

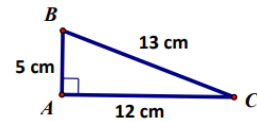
7.5 ~ OTHER TRIGONOMETRIC RELATIONSHIPS

1. Which of the following statements is FALSE?

- A) $\sin 45^\circ = \cos 45^\circ$ B) $\sin 0^\circ = \cos 90^\circ$ C) $\cos 30^\circ = \sin 30^\circ$ D) $\cos 10^\circ = \sin 80^\circ$

2. Which of the following is NOT equal to the ratio $\frac{12}{13}$?

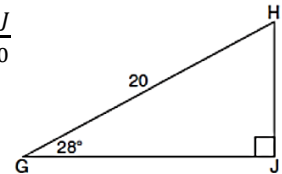
- A) $\sin B$ B) $\cos C$ C) $\frac{AC}{BC}$ D) $\sin C$



3. If $\cos \theta = \sin \beta$, then which of the following must be true?

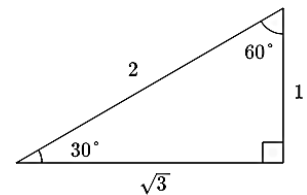
- A) $\theta + \beta = 180^\circ$ B) $\theta - \beta = 90^\circ$ C) $\beta = 90^\circ - \theta$ D) $\beta - \theta = 90^\circ$

4. When instructed to find HJ in $\triangle HJG$, Alex wrote the equation $\sin 28^\circ = \frac{HJ}{20}$ while Marley wrote $\cos 62^\circ = \frac{HJ}{20}$. Who is correct? Explain your reasoning.



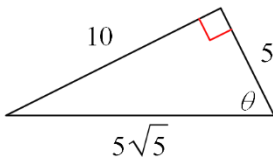
5. Which trig function is equal to $\frac{\sqrt{3}}{3}$?

- A) $\sec 30^\circ$ B) $\csc 30^\circ$ C) $\cot 60^\circ$ D) $\tan 60^\circ$



Find the sine, cosine, tangent, cosecant, secant, and cotangent ratios of the acute angle θ expressed in simplest form.

6.



$\sin \theta =$

$\cos \theta =$

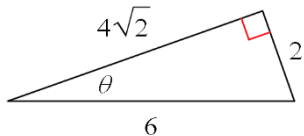
$\tan \theta =$

$\csc \theta =$

$\sec \theta =$

$\cot \theta =$

7.



$\sin \theta =$

$\cos \theta =$

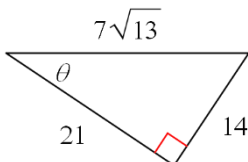
$\tan \theta =$

$\csc \theta =$

$\sec \theta =$

$\cot \theta =$

8.



$\sin \theta =$

$\cos \theta =$

$\tan \theta =$

$\csc \theta =$

$\sec \theta =$

$\cot \theta =$

Sketch the right triangle described, with right angle C . Use the Pythagorean Theorem to find the third side. Find the value of the indicated trigonometric ratios expressed as fractions in simplest form.

$$9. \tan A = \frac{1}{3}$$

$$\sin A =$$

$$\sec A =$$

$$10. \sin A = \frac{4\sqrt{2}}{9}$$

$$\cos A =$$

$$\cot A =$$

$$11. \cos A = \frac{1}{10}$$

$$\sin A =$$

$$\tan A =$$

$$12. \csc A = \frac{5\sqrt{2}}{7}$$

$$\cos A =$$

$$\cot A =$$

Use complement angle relationships to solve each problem.

$$13. \text{ If } \cos 72^\circ = \sin x, \text{ find } x.$$

$$14. \text{ If } \sin(x - 30)^\circ = \cos 60^\circ, \text{ find } x.$$

$$15. \text{ If } \sin(2x + 20)^\circ = \cos 40^\circ, \text{ find } x.$$

$$16. \text{ If } \cos(x + 30)^\circ = \sin x^\circ, \text{ find } x.$$

$$17. \text{ If } \sin(3x + 6)^\circ = \cos(2x - 1)^\circ, \text{ find } x.$$

$$18. \text{ If } \sin A = 2x + 0.1, \cos B = 4x - 0.7, \text{ and } m\angle C = 90^\circ, \text{ what is the value of } x.$$