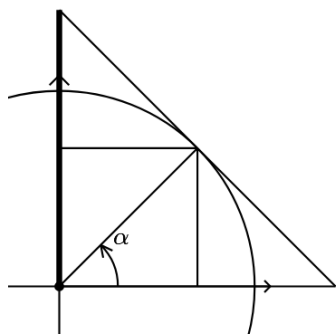


**Apply reciprocal and quotient identities**

- 1** What trigonometry ratio gives the highlighted dimension on the unit circle?



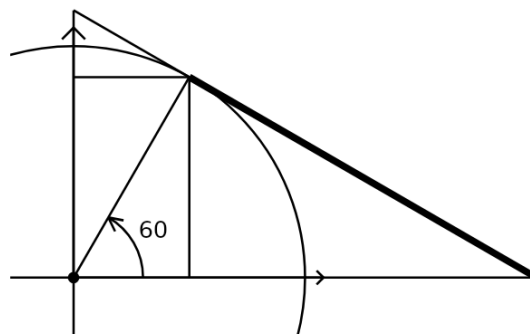
A

$$\csc(\alpha) = \frac{1}{\cos(\alpha)}$$

B

$$\csc(\alpha) = \frac{1}{\sin(\alpha)}$$

- 2** What trigonometry ratio gives the highlighted dimension on the unit circle?



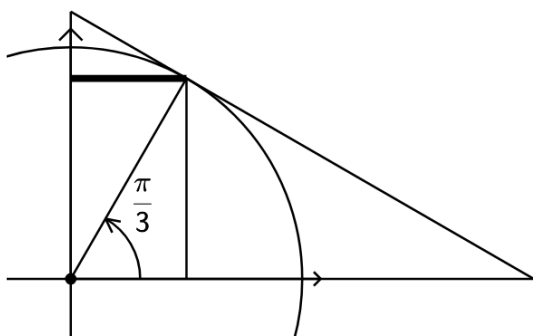
A

$$\cos(60^\circ) = \frac{1}{\sec(60^\circ)}$$

B

$$\tan(60^\circ) = \frac{1}{\cot(60^\circ)}$$

- 3** What trigonometry ratio gives the highlighted dimension on the unit circle?



A

$$\cos\left(\frac{\pi}{3}\right) = \frac{1}{\csc\left(\frac{\pi}{3}\right)}$$

B

$$\cos\left(\frac{\pi}{3}\right) = \frac{1}{\sec\left(\frac{\pi}{3}\right)}$$

- 4** What inverse ratio would give this trigonometry ratio?

$$\tan(\alpha)$$

A

$$\tan(\alpha) = \frac{1}{\sec(\alpha)}$$

B

$$\tan(\alpha) = \frac{1}{\cot(\alpha)}$$

- 5** What inverse ratio would give this trigonometry ratio?

$$\cot(45^\circ)$$

A

$$\cot(45^\circ) = \frac{1}{\tan(45^\circ)}$$

B

$$\cot(45^\circ) = \frac{1}{\csc(45^\circ)}$$

**Apply reciprocal and quotient identities****6**

What inverse ratio would give this trigonometry ratio?

$$\sec\left(\frac{\pi}{4}\right)$$

A

$$\sec\left(\frac{\pi}{4}\right) = \frac{1}{\sin\left(\frac{\pi}{4}\right)}$$

B

$$\sec\left(\frac{\pi}{4}\right) = \frac{1}{\cos\left(\frac{\pi}{4}\right)}$$

7Solve the trigonometric equation for x in the given domain.

$$4 \sec(x) = 8$$
$$\text{for } 0 \leq x < 2\pi$$

$$\text{using } \sec(x) = \frac{1}{\cos(x)}$$

A

$$x = \frac{2\pi}{3} \text{ or } x = \frac{4\pi}{3}$$

B

$$x = \frac{\pi}{3}$$

C

$$x = \frac{\pi}{3} \text{ or } x = \frac{5\pi}{3}$$

D

$$x = \frac{\pi}{3} \text{ or } x = \frac{5\pi}{6} \text{ or } x = \frac{5\pi}{3}$$

**Apply reciprocal and quotient identities****8**Solve the trigonometric equation for x in the given domain.

$$\frac{1}{\cot(x)} = -\sqrt{3}$$
$$\text{for } 0 \leq x < 2\pi$$

$$\text{using } \cot(x) = \frac{\cos(x)}{\sin(x)}, \quad \tan(x) = \frac{1}{\cot(x)}$$

A

$$x = \frac{2\pi}{3}$$

B

$$x = \frac{2\pi}{3} \text{ or } x = \frac{7\pi}{6} \text{ or } x = \frac{5\pi}{3}$$

C

$$x = \frac{2\pi}{3} \text{ or } x = \frac{5\pi}{3}$$

D

$$x = \frac{\pi}{3} \text{ or } x = \frac{4\pi}{3}$$

9Solve the trigonometric equation for x in the given domain.

$$\frac{\sec(x)}{\csc(x)} = -\sqrt{3}$$
$$\text{for } 0 \leq x < 2\pi$$

A

$$x = \frac{2\pi}{3} \text{ or } x = \frac{7\pi}{6} \text{ or } x = \frac{5\pi}{3}$$

B

$$x = \frac{2\pi}{3}$$

C

$$x = \frac{\pi}{3} \text{ or } x = \frac{4\pi}{3}$$

D

$$x = \frac{2\pi}{3} \text{ or } x = \frac{5\pi}{3}$$

**Apply reciprocal and quotient identities****10**

Simplify this expression using trig identities

A $\cos(\theta)$

B $\sec(\theta)$

C 1

11Solve the trigonometric equation for x in the given domain.

$$\sec(x) = -\sqrt{2}$$

$$\text{for } 0 \leq x < 2\pi$$

$$\text{using } \sec(x) = \frac{1}{\cos(x)}$$

A $x = \frac{3\pi}{4}$

B $x = \frac{\pi}{4}$ or $x = \frac{7\pi}{4}$

C $x = \frac{3\pi}{4}$ or $x = \frac{5\pi}{4}$

12Solve the trigonometric equation for x in the given domain.

$$2 \cot(x) = -2$$

$$\text{for } 0 \leq x < 2\pi$$

A $x = \frac{3\pi}{4}$ or $x = \frac{7\pi}{4}$

B $x = \frac{\pi}{4}$ or $x = \frac{5\pi}{4}$

C $x = \frac{3\pi}{4}$

D $x = \frac{3\pi}{4}$ or $x = \frac{5\pi}{4}$ or $x = \frac{7\pi}{4}$