



Trigonometry Identities - Pythagorean Problem Csc to Cot (without Identity, Quadrant as Ratio)

1

$\cos(\alpha) \rightarrow$ negative Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\alpha) = 4$$

$$\cot(\alpha) = ?$$

A

B

$$\cot(\alpha) = -\sqrt{15} \quad \cot(\alpha) = \sqrt{15}$$

2

$\cos(\theta) \rightarrow$ negative Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\theta) = -3$$

$$\cot(\theta) = ?$$

A

B

$$\cot(\theta) = 2\sqrt{2} \quad \cot(\theta) = \sqrt{6}$$

3

$\cos(\theta) \rightarrow$ positive Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\theta) = -4$$

$$\cot(\theta) = ?$$

A

B

$$\cot(\theta) = -\sqrt{15} \quad \cot(\theta) = -\sqrt{10}$$

4

$\cos(\gamma) \rightarrow$ negative Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\gamma) = 7$$

$$\cot(\gamma) = ?$$

A

B

$$\cot(\gamma) = -4\sqrt{3} \quad \cot(\gamma) = -\frac{4\sqrt{3}}{\sqrt{6}}$$

5

$\cos(\gamma) \rightarrow$ positive Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\gamma) = 3$$

$$\cot(\gamma) = ?$$

A

B

$$\cot(\gamma) = \frac{2\sqrt{2}}{\sqrt{2}} \quad \cot(\gamma) = 2\sqrt{2}$$

6

$\cos(\theta) \rightarrow$ positive Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\theta) = 5$$

$$\cot(\theta) = ?$$

A

B

$$\cot(\theta) = -2\sqrt{6} \quad \cot(\theta) = 2\sqrt{6}$$

7

$\cos(\theta) \rightarrow$ positive Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\theta) = -3$$

$$\cot(\theta) = ?$$

A

B

$$\cot(\theta) = -2\sqrt{3} \quad \cot(\theta) = -2\sqrt{2}$$

8

$\cos(\beta) \rightarrow$ positive Solve for cotangent from cosecant using trig identities

—

Solve:

$$\csc(\beta) = 4$$

$$\cot(\beta) = ?$$

A

B

$$\cot(\beta) = \sqrt{15} \quad \cot(\beta) = 4$$