Name

Trigonometry Identities - Pythagorean Problem Cot to Csc (with Identity, Quadrant as Radians)

1

Using:
$\cot^2(\theta) = \csc^2(\theta) - 1$
$\frac{\pi}{2} < \theta < \pi$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\theta) = -18$
$\csc(\theta) = ?$

A	B
$\csc(\theta) = 5\sqrt{13}$	$\csc(\theta) = 7\sqrt{5}$

2

Using:
$\cot^2(\gamma) = \csc^2(\gamma) - 1$
$\frac{3\pi}{2} < \gamma < 2\pi$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\gamma) = -15$
$\csc(\gamma) = ?$

A	B
$\csc(\gamma) = -\sqrt{226}$	$\csc(\gamma) = \sqrt{226}$

3

Using:
$\cot^2(\gamma) = \csc^2(\gamma) - 1$
$0 < \gamma < \frac{\pi}{2}$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\gamma) = 7$
$\csc(\gamma) = ?$

A	B
$\csc(\gamma) = 2\sqrt{13}$	$\csc(\gamma) = 5\sqrt{2}$

4

Using:
$\cot^2(\alpha) = \csc^2(\alpha) - 1$
$\frac{\pi}{2} < \alpha < \pi$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\alpha) = -7$
$\csc(\alpha) = ?$

A	B
$\csc(\alpha) = 5\sqrt{2}$	$\csc(\alpha) = \sqrt{57}$

5

Using:
$\cot^2(\theta) = \csc^2(\theta) - 1$
$\pi < \theta < \frac{3\pi}{2}$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\theta) = 16$
$\csc(\theta) = ?$

A	B
$\csc(\theta) = -\sqrt{257}$	$\csc(\theta) = \sqrt{257}$

6

Using:
$\cot^2(\gamma) = \csc^2(\gamma) - 1$
$\frac{\pi}{2} < \gamma < \pi$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\gamma) = -9$
$\csc(\gamma) = ?$

A	B
$\csc(\gamma) = \sqrt{86}$	$\csc(\gamma) = \sqrt{82}$

7

Using:
$\cot^2(\beta) = \csc^2(\beta) - 1$
$\frac{3\pi}{2} < \beta < 2\pi$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\beta) = -12$
$\csc(\beta) = ?$

A	B
$\csc(\beta) = \sqrt{145}$	$\csc(\beta) = -\sqrt{145}$

8

Using:
$\cot^2(\alpha) = \csc^2(\alpha) - 1$
$\pi < \alpha < \frac{3\pi}{2}$

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\alpha) = 2$
$\csc(\alpha) = ?$

A	B
$\csc(\alpha) = -\sqrt{5}$	$\csc(\alpha) = \sqrt{5}$