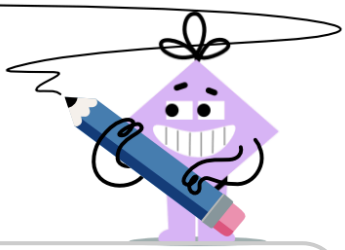
Name



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

1

Using:
$\cot^2(\beta) = \csc^2(\beta) - 1$
$\sin(\beta) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\beta) = -8$
$\csc(\beta) = ?$

A	B
$\csc(\beta) = -\sqrt{65}$	$\csc(\beta) = -\sqrt{55}$

2

Using:
$\cot^2(\theta) = \csc^2(\theta) - 1$
$\sin(\theta) \rightarrow$ positive

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\theta) = 9$
$\csc(\theta) = ?$

A	B
$\csc(\theta) = -\sqrt{82}$	$\csc(\theta) = \sqrt{82}$

3

Using:
$\cot^2(\theta) = \csc^2(\theta) - 1$
$\sin(\theta) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\theta) = 14$
$\csc(\theta) = ?$

A	B
$\csc(\theta) = -\sqrt{239}$	$\csc(\theta) = -\sqrt{197}$

4

Using:
$\cot^2(\beta) = \csc^2(\beta) - 1$
$\sin(\beta) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

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

A	B
$\csc(\beta) = -5\sqrt{2}$	$\csc(\beta) = -\sqrt{43}$

5

Using:
$\cot^2(\gamma) = \csc^2(\gamma) - 1$
$\sin(\gamma) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\gamma) = -17$
$\csc(\gamma) = ?$

A	B
$\csc(\gamma) = -\sqrt{290}$	$\csc(\gamma) = -\sqrt{362}$

6

Using:
$\cot^2(\gamma) = \csc^2(\gamma) - 1$
$\sin(\gamma) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\gamma) = -1$
$\csc(\gamma) = ?$

A	B
$\csc(\gamma) = -\sqrt{2}$	$\csc(\gamma) = -\frac{\sqrt{2}}{\sqrt{3}}$

7

Using:
$\cot^2(\alpha) = \csc^2(\alpha) - 1$
$\sin(\alpha) \rightarrow$ negative

Solve for cosecant from cotangent using trig identities

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

A	B
$\csc(\alpha) = -\sqrt{226}$	$\csc(\alpha) = -2\sqrt{39}$

8

Using:
$\cot^2(\alpha) = \csc^2(\alpha) - 1$
$\sin(\alpha) \rightarrow$ positive

Solve for cosecant from cotangent using trig identities

Solve:
$\cot(\alpha) = 12$
$\csc(\alpha) = ?$

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