



## Trigonometry Identities - Pythagorean Problem Sec to Tan (without Identity, Quadrant as Radians)

1  $\pi < \gamma < \frac{3\pi}{2}$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\gamma) = \frac{2\sqrt{6}}{3}$	$\tan(\gamma) = 2\sqrt{6}$

Solve:  
 $\sec(\gamma) = -5$   
 $\tan(\gamma) = ?$

2  $\pi < \theta < \frac{3\pi}{2}$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\theta) = \sqrt{10}$	$\tan(\theta) = \sqrt{15}$

Solve:  
 $\sec(\theta) = -4$   
 $\tan(\theta) = ?$

3  $0 < \theta < \frac{\pi}{2}$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\theta) = \sqrt{35}$	$\tan(\theta) = \sqrt{47}$

Solve:  
 $\sec(\theta) = 6$   
 $\tan(\theta) = ?$

4  $0 < \alpha < \frac{\pi}{2}$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\alpha) = 2\sqrt{6}$	$\tan(\alpha) = \sqrt{42}$

Solve:  
 $\sec(\alpha) = 5$   
 $\tan(\alpha) = ?$

5  $\frac{\pi}{2} < \beta < \pi$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\beta) = -\sqrt{2}$	$\tan(\beta) = -\sqrt{3}$

Solve:  
 $\sec(\beta) = -2$   
 $\tan(\beta) = ?$

6  $\frac{\pi}{2} < \gamma < \pi$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\gamma) = -3\sqrt{7}$	$\tan(\gamma) = -7$

Solve:  
 $\sec(\gamma) = -8$   
 $\tan(\gamma) = ?$

7  $\frac{\pi}{2} < \theta < \pi$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\theta) = -2\sqrt{2}$	$\tan(\theta) = -\sqrt{2}$

Solve:  
 $\sec(\theta) = -3$   
 $\tan(\theta) = ?$

8  $\frac{3\pi}{2} < \gamma < 2\pi$   
—  
Solve for tangent from secant using trig identities

A	B
$\tan(\gamma) = 2\sqrt{6}$	$\tan(\gamma) = -2\sqrt{6}$

Solve:  
 $\sec(\gamma) = 5$   
 $\tan(\gamma) = ?$