



## Trigonometry Identities - Pythagorean Problem Sin to Cos (without Identity, Quadrant as Radians)

1  $\frac{\pi}{2} < \beta < \pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\beta) = \frac{5}{9}$   
 $\cos(\beta) = ?$

A	B
$\cos(\beta) = \frac{2\sqrt{14}}{9}$	$\cos(\beta) = -\frac{2\sqrt{14}}{9}$

2  $\frac{3\pi}{2} < \alpha < 2\pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\alpha) = -\frac{2}{5}$   
 $\cos(\alpha) = ?$

A	B
$\cos(\alpha) = \frac{\sqrt{21}}{5}$	$\cos(\alpha) = -\frac{\sqrt{21}}{5}$

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

Solve:  
 $\sin(\theta) = \frac{3}{6}$   
 $\cos(\theta) = ?$

A	B
$\cos(\theta) = \frac{\sqrt{3}}{2}$	$\cos(\theta) = -\frac{\sqrt{3}}{2}$

4  $\frac{\pi}{2} < \gamma < \pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\gamma) = \frac{1}{6}$   
 $\cos(\gamma) = ?$

A	B
$\cos(\gamma) = -\frac{\sqrt{35}}{6}$	$\cos(\gamma) = -\frac{4\sqrt{2}}{6}$

5  $\frac{\pi}{2} < \theta < \pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\theta) = \frac{2}{5}$   
 $\cos(\theta) = ?$

A	B
$\cos(\theta) = -\frac{\sqrt{21}}{5}$	$\cos(\theta) = -\frac{\sqrt{35}}{5}$

6  $\frac{3\pi}{2} < \alpha < 2\pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\alpha) = -\frac{5}{9}$   
 $\cos(\alpha) = ?$

A	B
$\cos(\alpha) = \frac{2\sqrt{14}}{9}$	$\cos(\alpha) = \frac{7}{9}$

7  $\frac{\pi}{2} < \gamma < \pi$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\gamma) = \frac{4}{9}$   
 $\cos(\gamma) = ?$

A	B
$\cos(\gamma) = -\frac{\sqrt{55}}{9}$	$\cos(\gamma) = -\frac{\sqrt{65}}{9}$

8  $0 < \beta < \frac{\pi}{2}$   
—  
Solve for cosine from sine using trig identities

Solve:  
 $\sin(\beta) = \frac{4}{9}$   
 $\cos(\beta) = ?$

A	B
$\cos(\beta) = \frac{\sqrt{53}}{9}$	$\cos(\beta) = \frac{\sqrt{65}}{9}$