



Trigonometry Identities - Pythagorean Problem Sin to Cos (with Identity, Quadrant as Degrees)

1 Using: $\sin^2(\beta) = 1 - \cos^2(\beta)$ Solve for cosine from sine using trig identities
 $270^\circ < \beta < 360^\circ$

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

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

Using: $\sin^2(\alpha) = 1 - \cos^2(\alpha)$ Solve for cosine from sine using trig identities
 $270^\circ < \alpha < 360^\circ$

Solve:
 $\sin(\alpha) = -\frac{8}{9}$
 $\cos(\alpha) = ?$

A	B
$\cos(\alpha) = \frac{\sqrt{13}}{9}$	$\cos(\alpha) = \frac{\sqrt{17}}{9}$

3 Using: $\sin^2(\theta) = 1 - \cos^2(\theta)$ Solve for cosine from sine using trig identities
 $270^\circ < \theta < 360^\circ$

Solve:
 $\sin(\theta) = -\frac{1}{5}$
 $\cos(\theta) = ?$

A	B
$\cos(\theta) = -\frac{2\sqrt{6}}{5}$	$\cos(\theta) = \frac{2\sqrt{6}}{5}$

4 Using: $\sin^2(\theta) = 1 - \cos^2(\theta)$ Solve for cosine from sine using trig identities
 $90^\circ < \theta < 180^\circ$

Solve:
 $\sin(\theta) = \frac{4}{7}$
 $\cos(\theta) = ?$

A	B
$\cos(\theta) = -\frac{\sqrt{33}}{\sqrt{13}}$	$\cos(\theta) = -\frac{\sqrt{33}}{7}$

5 Using: $\sin^2(\alpha) = 1 - \cos^2(\alpha)$ Solve for cosine from sine using trig identities
 $0^\circ < \alpha < 90^\circ$

Solve:
 $\sin(\alpha) = \frac{3}{5}$
 $\cos(\alpha) = ?$

A	B
$\cos(\alpha) = \frac{4}{5}$	$\cos(\alpha) = \frac{3}{5}$

6 Using: $\sin^2(\alpha) = 1 - \cos^2(\alpha)$ Solve for cosine from sine using trig identities
 $90^\circ < \alpha < 180^\circ$

Solve:
 $\sin(\alpha) = \frac{6}{9}$
 $\cos(\alpha) = ?$

A	B
$\cos(\alpha) = -\frac{\sqrt{5}}{3}$	$\cos(\alpha) = -\frac{\sqrt{5}}{\sqrt{5}}$

7 Using: $\sin^2(\theta) = 1 - \cos^2(\theta)$ Solve for cosine from sine using trig identities
 $270^\circ < \theta < 360^\circ$

Solve:
 $\sin(\theta) = -\frac{4}{5}$
 $\cos(\theta) = ?$

A	B
$\cos(\theta) = \frac{\sqrt{15}}{5}$	$\cos(\theta) = \frac{3}{5}$

8 Using: $\sin^2(\beta) = 1 - \cos^2(\beta)$ Solve for cosine from sine using trig identities
 $270^\circ < \beta < 360^\circ$

Solve:
 $\sin(\beta) = -\frac{1}{4}$
 $\cos(\beta) = ?$

A	B
$\cos(\beta) = \frac{\sqrt{15}}{4}$	$\cos(\beta) = -\frac{\sqrt{15}}{4}$