

PRACTICE Quiz 5.3 Graph Phase & Vertical Shift (Sin & Cos)

Find the phase shift in radians, the vertical shift, the minimum and maximum values, two vertical asymptotes (if any), and the transformations required to obtain the graph starting with a basic trig function.

1) $y = \cos\left(\theta - \frac{3\pi}{2}\right) + 4$

Phase Shift:

Vert. Shift:

Min:

Max:

Transformation:

2) $y = -1 + \sin\left(\theta + \frac{\pi}{3}\right)$

Phase Shift:

Vert. Shift:

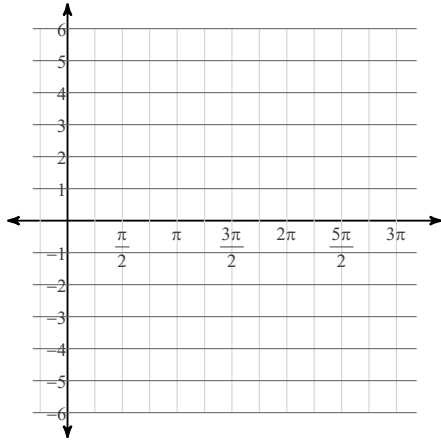
Min:

Max:

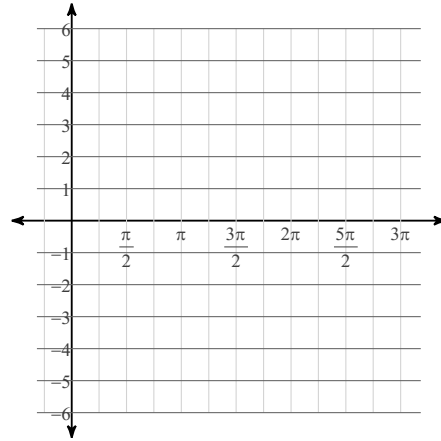
Transformation:

Graph each function using radians.

3) $y = 1 + \sin\left(\theta + \frac{\pi}{2}\right)$



4) $y = \cos\left(\theta + \frac{7\pi}{4}\right) + 2$



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Find the phase shift in radians, the vertical shift, the minimum and maximum values, two vertical asymptotes (if any), and the transformations required to obtain the graph starting with a basic trig function.

1) $y = \cos\left(\theta - \frac{3\pi}{2}\right) + 4$

Phase Shift:

Vert. Shift:

Min:

Max:

Transformation:

Phase shift: Right $\frac{3\pi}{2}$

Vert. shift: Up 4

Min: 3

Max: 5

Vert asym: None

Transformations:

Starting with $\cos \theta$,translate right $\frac{3\pi}{2}$,

translate up 4

2) $y = -1 + \sin\left(\theta + \frac{\pi}{3}\right)$

Phase Shift:

Vert. Shift:

Min:

Max:

Transformation:

Phase shift: Left $\frac{\pi}{3}$

Vert. shift: Down 1

Min: -2

Max: 0

Vert asym: None

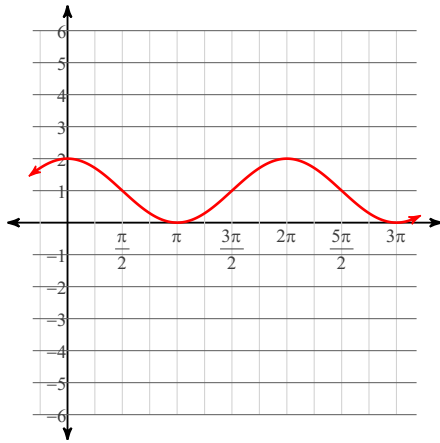
Transformations:

Starting with $\sin \theta$,translate left $\frac{\pi}{3}$,

translate down 1

Graph each function using radians.

3) $y = 1 + \sin\left(\theta + \frac{\pi}{2}\right)$



4) $y = \cos\left(\theta + \frac{7\pi}{4}\right) + 2$

