

PreCalculus
Practice Quiz A – Graphing Sine and Cosine

Name Key 2015

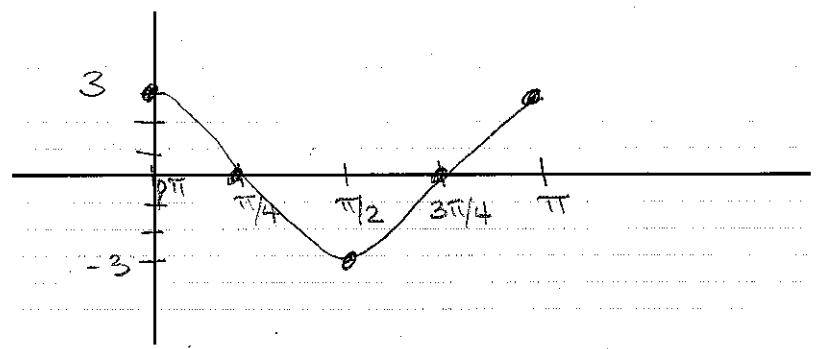
151 Points (Not for a Grade)

Graph each function, labeling all critical points on the x-axis and y-axis. Identify the characteristics.
(2 points each blank. 5 points each graph.)

*remember deg. sign

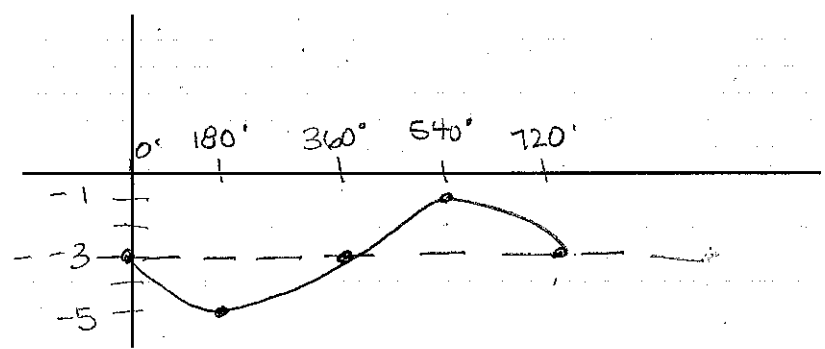
1. Graph $y = 3 \cos(2x)$ $\frac{2\pi}{2} = \pi$

- amplitude = 3
- period = π
- phase shift = NA
- vertical shift = NA
- domain: $[0, \pi]$
- range: $[-3, 3]$



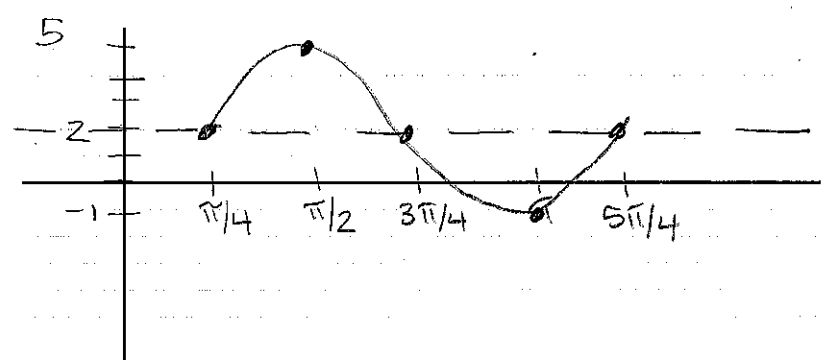
2. $y = -2 \sin\left(\frac{1}{2}\theta\right) - 3$ $\frac{360}{1/2} = 720^\circ$

- amplitude = 2
- period = 720°
- phase shift = NA
- vertical shift = -3
- domain: $[0, 720^\circ]$
- range: $[-5, -1]$



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

- amplitude = 3
- period = π
- phase shift = $\pi/4$
- vertical shift = 2
- domain: $[\pi/4, 5\pi/4]$
- range: $[-1, 5]$



$$\begin{aligned} 2x - \frac{\pi}{2} &= 0 & 2x - \frac{\pi}{2} &= 2\pi \\ 2x &= \frac{\pi}{2} & 2x &= \frac{5\pi}{2} \\ x &= \frac{\pi}{4} & x &= \frac{5\pi}{4} \end{aligned}$$