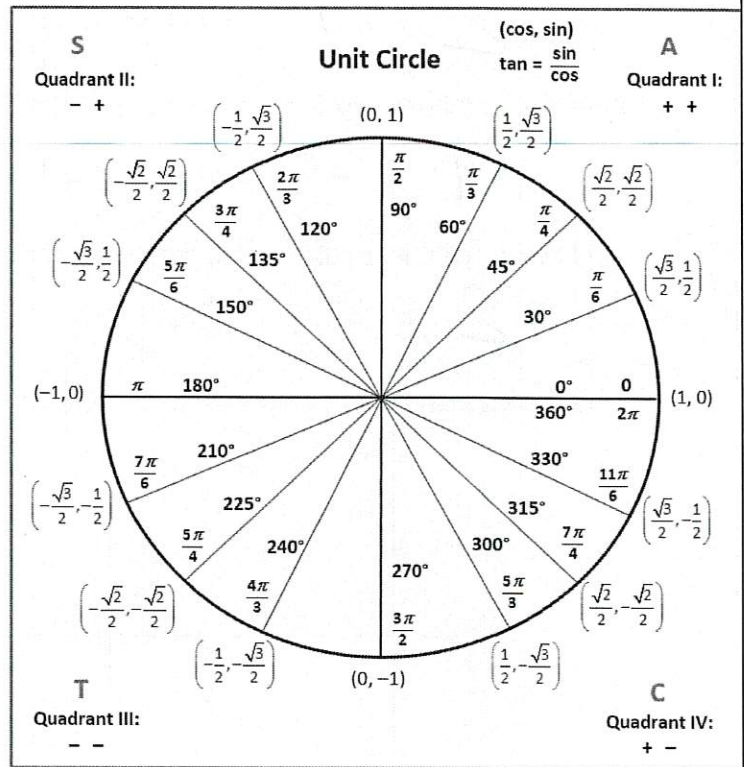


AA5: Trigonometric Functions Review

I can find central angles and coordinate points on the unit circle.

- Use the unit circle to find:

- $\cos(45^\circ)$ $\frac{\sqrt{2}}{2}$
- $\sin(\frac{\pi}{6})$ $\frac{1}{2}$
- $\sin(300^\circ)$ $-\frac{\sqrt{3}}{2}$
- $\cos(-\frac{2\pi}{3})$ $-\frac{1}{2}$
- $\cos(-120^\circ)$ $-\frac{1}{2}$
- $\tan(135^\circ)$ -1
- $\tan(\frac{\pi}{3})$ $\frac{\sqrt{3}}{2} \div \frac{1}{2} = \sqrt{3}$



$\frac{405}{360} \times \frac{360}{45} \sin(45^\circ) = \frac{\sqrt{2}}{2}$

- Use the unit circle to solve:

- $\cos(\theta^\circ) = \frac{1}{2}, 0 \leq \theta \leq 360$
 $\theta = 60^\circ, 300^\circ$
- $\sin(\theta^\circ) = -\frac{\sqrt{3}}{2}, -180 \leq \theta \leq 180$
 $\theta = -60^\circ, -120^\circ$
- $\tan(\theta^\circ) = 1, 0 \leq \theta \leq 360$
 $\theta = 45^\circ, 225^\circ$
- $\sin(\theta) = \frac{1}{2}, 0 \leq \theta \leq 2\pi$
 $\theta = \frac{\pi}{6}, \frac{5\pi}{6}$
- $\cos(\theta) = -\frac{\sqrt{2}}{2}, -\pi \leq \theta \leq \pi$
 $\theta = -\frac{3\pi}{4}, \frac{3\pi}{4}$
- $\tan(\theta) = 0, 0 \leq \theta \leq 4\pi$
 $\frac{\sin}{\cos}$ so $\sin = 0$. $\theta = 0, \pi, 2\pi, 3\pi, 4\pi$

I can graph transformed sine and cosine functions using radians or degrees

- Find the amplitude, midline, range and period (degrees) of $m(x) = 2 \sin(3x) + 1$

2, 1, $-1 \leq y \leq 3$, $\frac{360}{3} = 120$

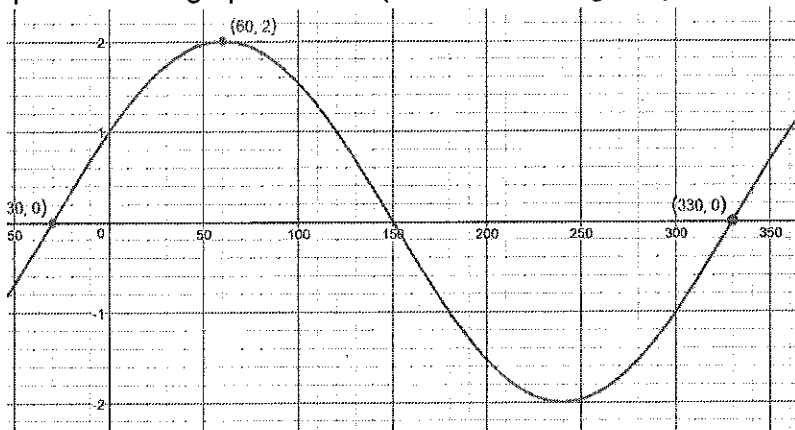
- Find the amplitude, midline, range and period (radians) of $n(x) = -4 \cos(\frac{2\pi}{3}x) - 5$

4, -5, $-9 \leq y \leq -1$, $\frac{2\pi}{2\pi/3} = \frac{2\pi \cdot 3}{2\pi} = 3$

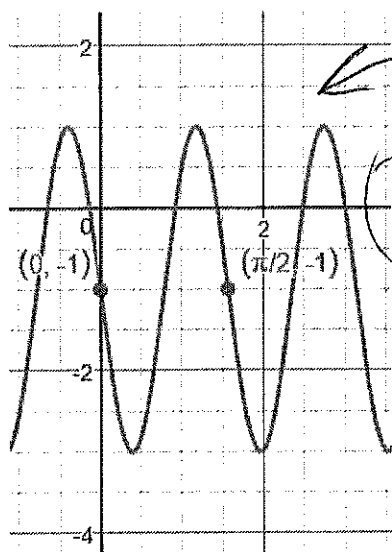
- Find the amplitude, midline, horizontal shift and period (degrees) of $k(x) = 2 \sin(x - 60) + 3$

2, 3, 60, 360

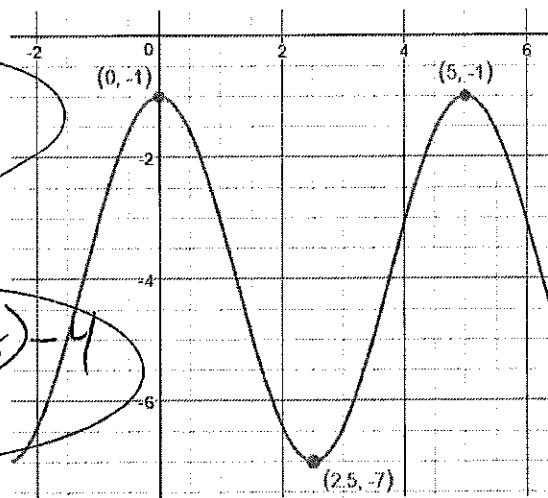
- Find the equation of the graphs shown (in radians or degrees).



$y = 2 \sin(x + 30)$



$y = 2 \sin(4x) - 1$



$y = 3 \cos(\frac{2\pi}{5}x) - 4$