

AA5: Trigonometric Functions Review

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

- Use the unit circle to find:

$\circ \cos(45^\circ) = \frac{\sqrt{2}}{2}$

$\circ \sin(\frac{\pi}{6}) = \frac{1}{2}$

$\circ \sin(300^\circ) = -\frac{\sqrt{3}}{2}$

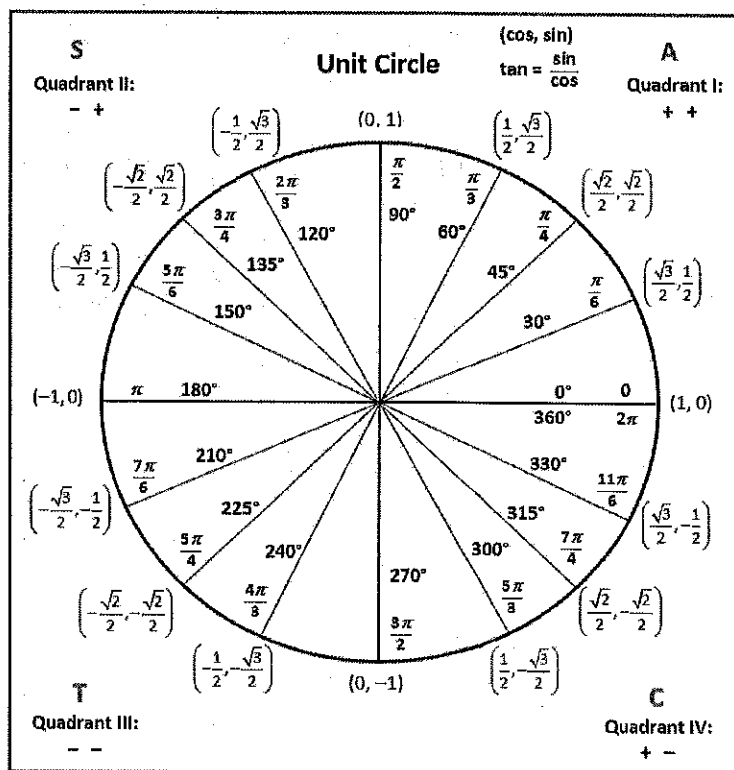
$\circ \cos(-\frac{2\pi}{3}) = -\frac{1}{2}$

$\circ \cos(-120^\circ) = -\frac{1}{2}$

$\circ \tan(135^\circ) = -1$

$\circ \tan(\frac{\pi}{3}) = \sqrt{3}$

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



- Use the unit circle to solve:

$\circ \cos(\theta^\circ) = \frac{1}{2}, 0 \leq \theta \leq 360$

$\theta = 60^\circ, \theta = 300^\circ$

$\circ \sin(\theta^\circ) = -\frac{\sqrt{3}}{2}, -180 \leq \theta \leq 180$

$\theta = -60^\circ, \theta = -120^\circ$

$\circ \tan(\theta^\circ) = 1, 0 \leq \theta \leq 360$

$\theta = 45^\circ, \theta = 225^\circ$

$\circ \sin(\theta) = \frac{1}{2}, 0 \leq \theta \leq 2\pi$

$\frac{\pi}{6}, \frac{5\pi}{6}$

$\circ \cos(\theta) = -\frac{\sqrt{2}}{2}, -\pi \leq \theta \leq \pi$

$-\frac{3\pi}{4}, \frac{3\pi}{4}$

$\circ \tan(\theta) = 0, 0 \leq \theta \leq 4\pi$

$0, \pi, 2\pi, 3\pi, 4\pi$

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

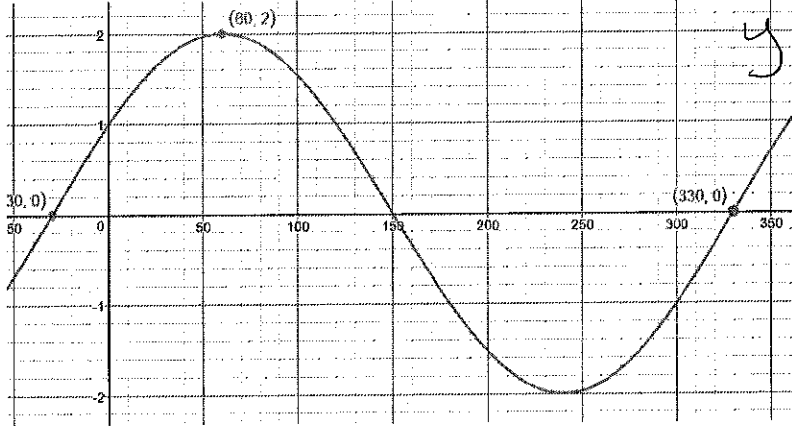
- Find the amplitude, midline, range and period (radians) of $n(x) = -4 \cos(\frac{2\pi}{3}x) - 5$

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

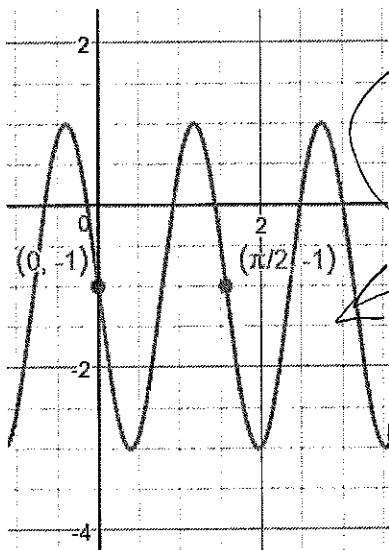
- Find the amplitude, midline, horizontal shift and period (degrees) of $k(x) = 2 \sin(x - 60) + 3$

2 | 3 | 60 right | 360

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



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



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

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

