Adv Alg 4

Name_____
Date_____Pd_____

TRANSFORMING SINE & COSINE

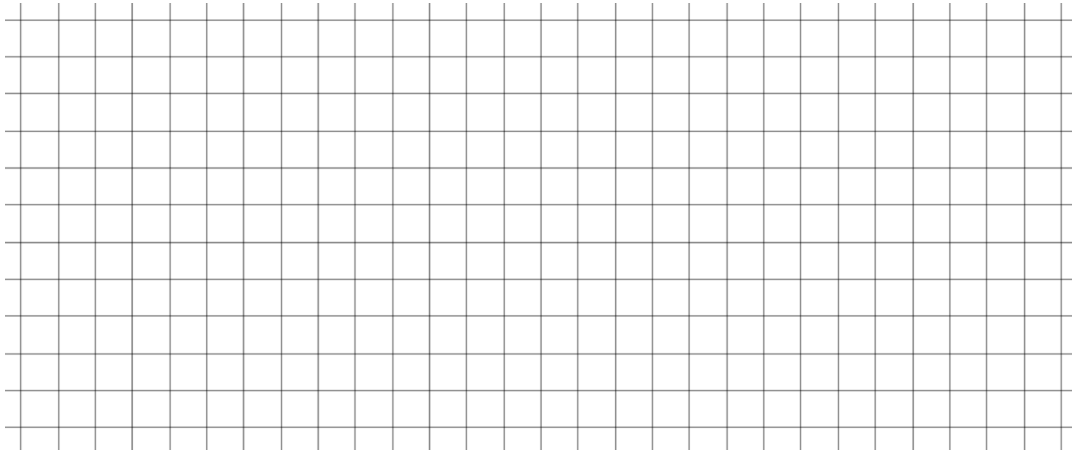
$f(\theta) = a \sin(b\theta) + k$ OR $f(\theta) = a \cos(b\theta) + k$

where $|a|$ is the amplitude, $\frac{2\pi}{b}$ is the period, and k is the vertical shift.

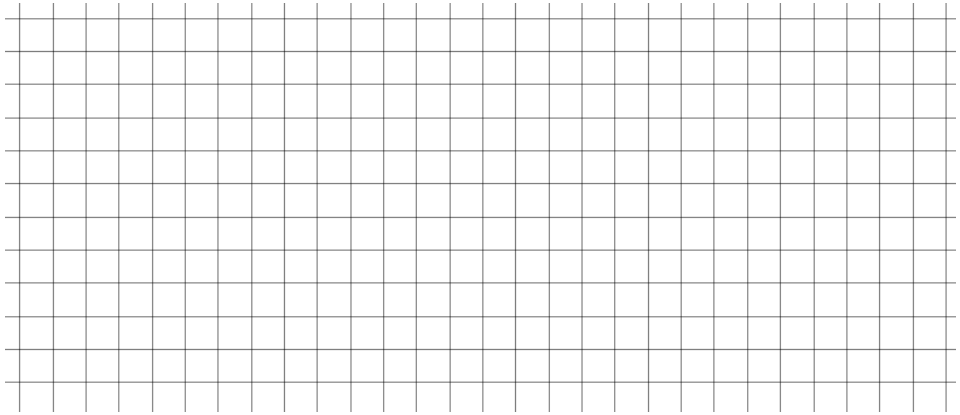
For problems 1-6, use 0, $\frac{\pi}{2}$, π, $\frac{3\pi}{2}$, and 2π as key points for graphing. Be sure to include your scale on both axis and label your graphs.

1. Graph $f(\theta) = \cos(\theta)$ and $g(\theta) = 2\cos(\theta)$.

2. Graph $f(\theta) = \sin(\theta)$ and $g(\theta) = -3\sin(\theta)$.

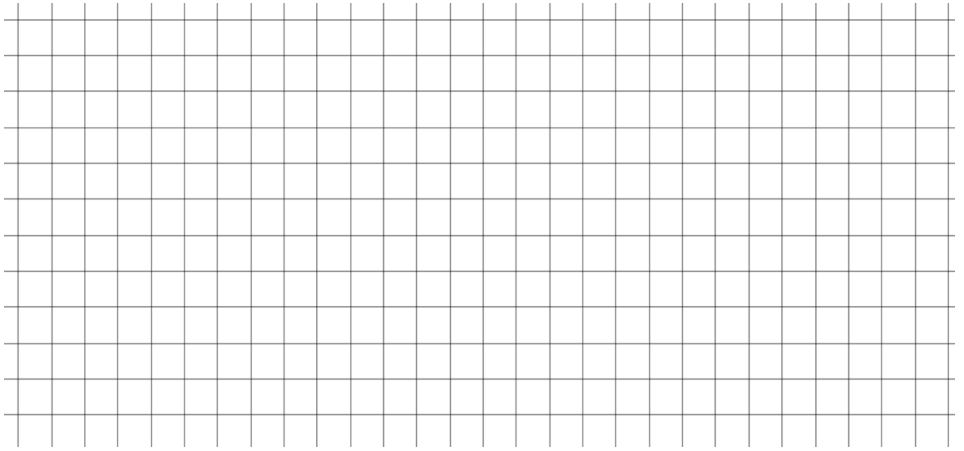


3. Graph $f(\theta) = \cos(\theta)$ and $g(\theta) = \cos(\theta) + 2$.



4. Graph $f(\theta) = \sin(\theta)$ and $g(\theta) = \sin(\theta) - 1$.

5. Graph $f(\theta) = \sin(\theta)$ and $g(\theta) = \sin(2\theta)$.



6. Graph $f(\theta) = \cos(\theta)$ and $g(\theta) = \frac{1}{2}\cos(\frac{1}{2}\theta) - 1$