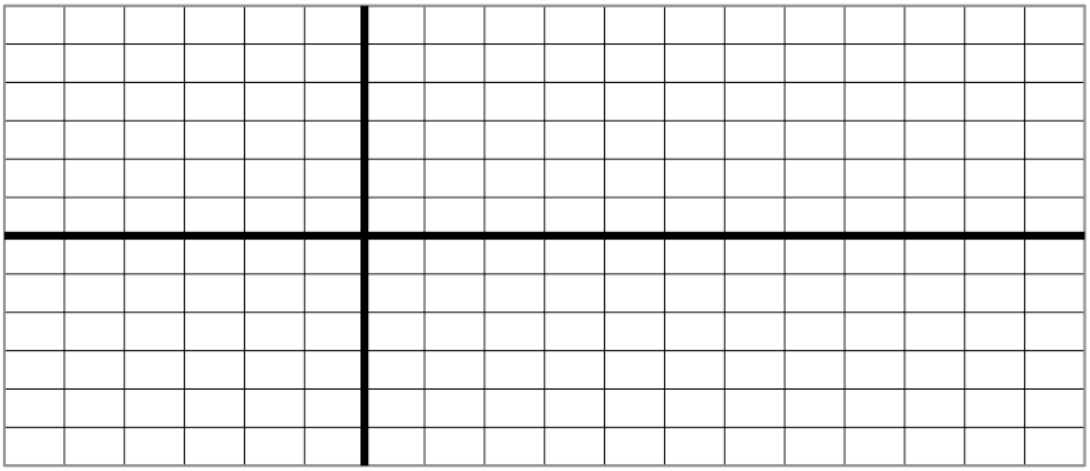
/13K	/15A	/1C	/7T	Total /36

Name: _____ Date: _____

MCR3U Quiz: Trigonometric functions

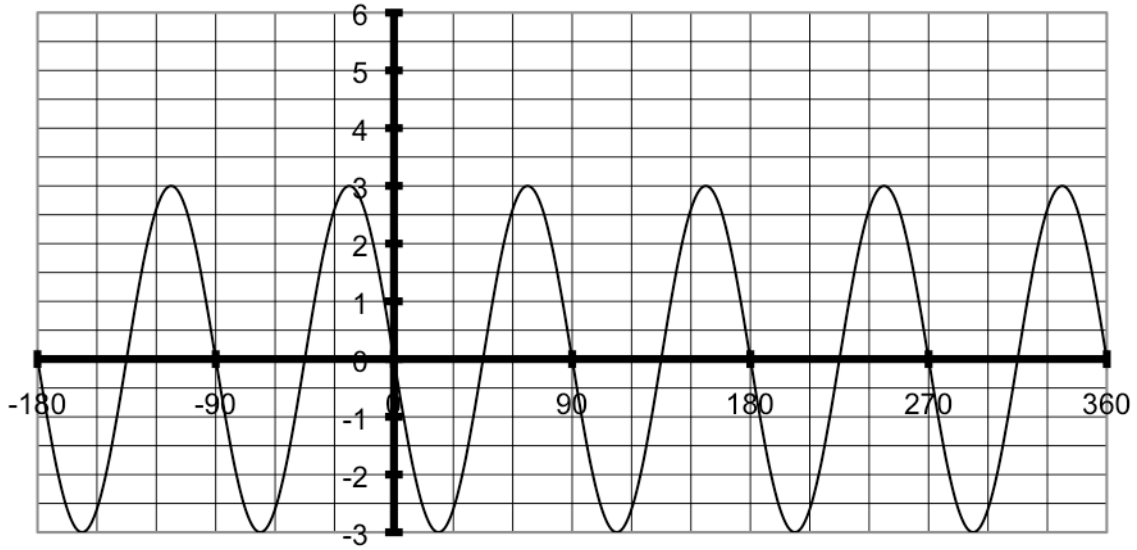
/3 K

1. Sketch one cycle of the graph of $y = -\cos 2x$. Include an appropriate scale on each axis.



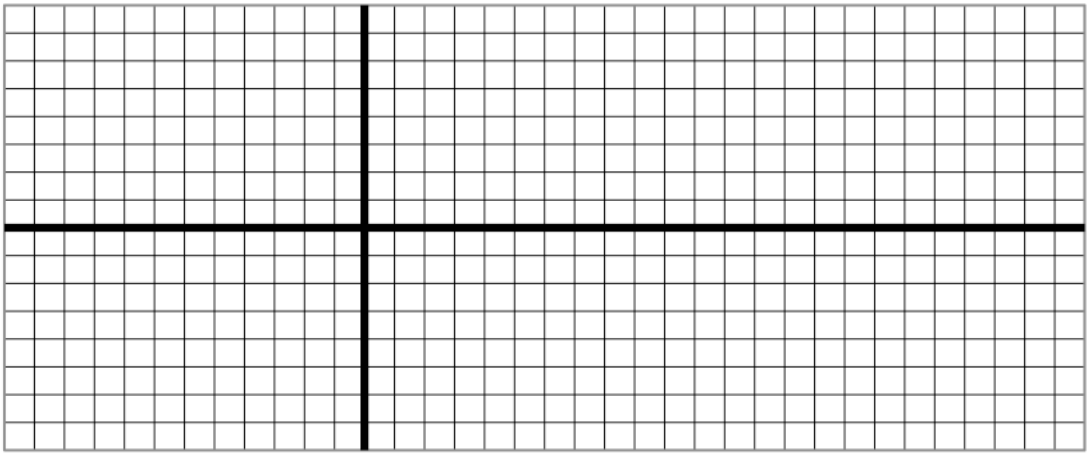
/3 A

2. Write an equation to match the following graph.



/5
K

3. Sketch two cycles of the graph of $y = 3\sin(x - 120^o) + 2$. Include an appropriate scale on each axis.



/1
C

4. The equation of a sine function is $y = 5\sin(3x - 60^o) + 2$. Explain why the phase shift is not 60°.

/2
K

5. Determine the period of the function $y = \frac{5}{2}\cos\left[\frac{3}{4}(x - 40^o)\right] + \frac{1}{2}$.

/3
K

6. Describe the transformations that must be applied to the graph of $f(x) = \sin x$ to obtain the graph of $g(x) = 3\sin 2x - 1$.

/4
T

7. A sinusoidal function has an amplitude of 5 units, a period of 120^{o}, and a maximum at (0, 3). Represent the function with an equation using a sine or cosine function.

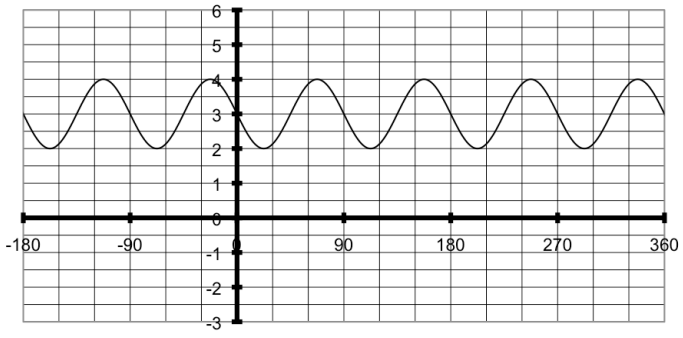
/2
T

8. Represent the graph of $f(x) = 2\sin\left[3(x - 30^{o})\right]$ with an equation using a cosine function.

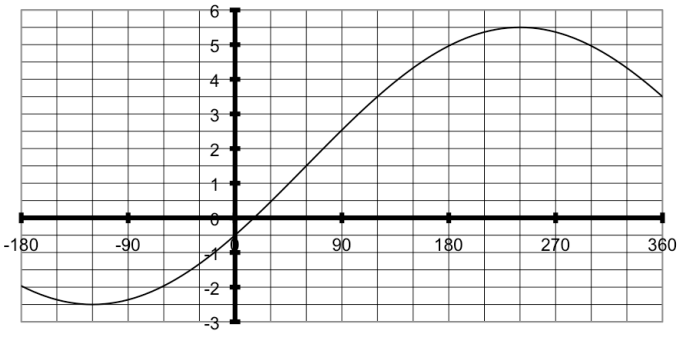
/7
A

9. Determine equations to model each of the following sinusoidal functions.

a)



b)



/5
A

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T

10. Create a graph to represent <u>ONE</u> of the following sinusoidal functions. Label the amplitude and period on the graph.

$y = 4\sin\frac{1}{3}(x + 90^o)$ <u>or</u> $y = -\cos(2x + 60^o) + 5$