Name:_____ **Per:**_____

Section 2.1 Worksheet

Page 43: 1) Make a table of values of θ and $\sin\theta$ for each integer multiple of 10° from 0° to 90°. Round off to two decimal places. Add the values of $\sin 180^\circ$, $\sin 270^\circ$, and $\sin 360^\circ$. Do the same for cosine.

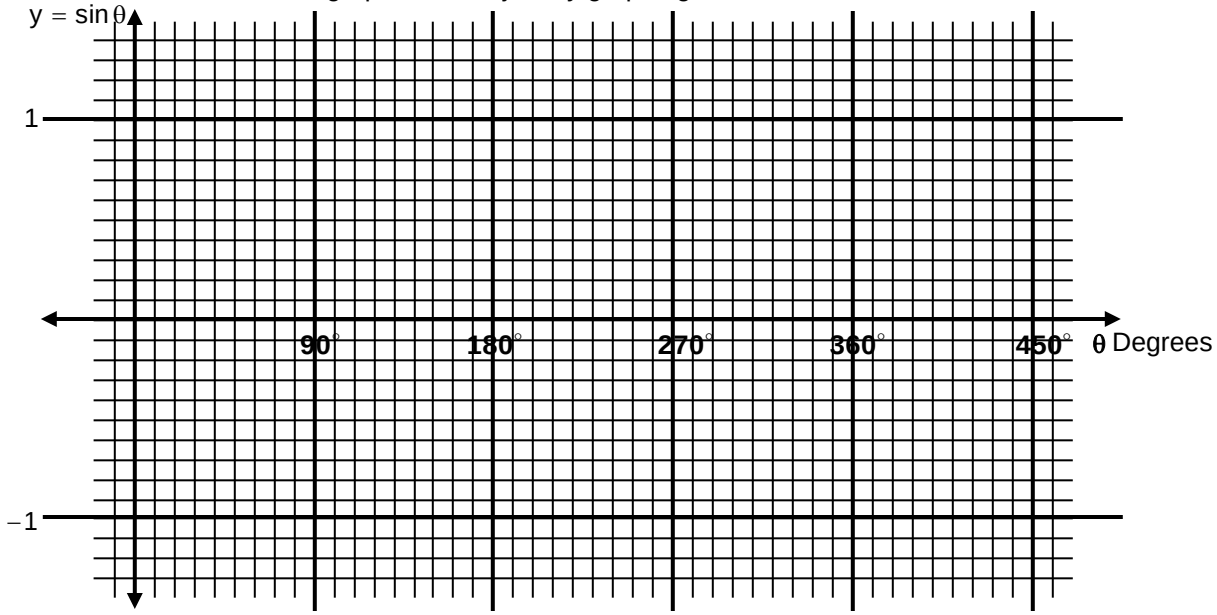
θ	$\sin\theta$
0°	
10°	
20°	
30°	
40°	
50°	
60°	

θ	$\sin\theta$
70°	
80°	
90°	
180°	
270°	
360°	

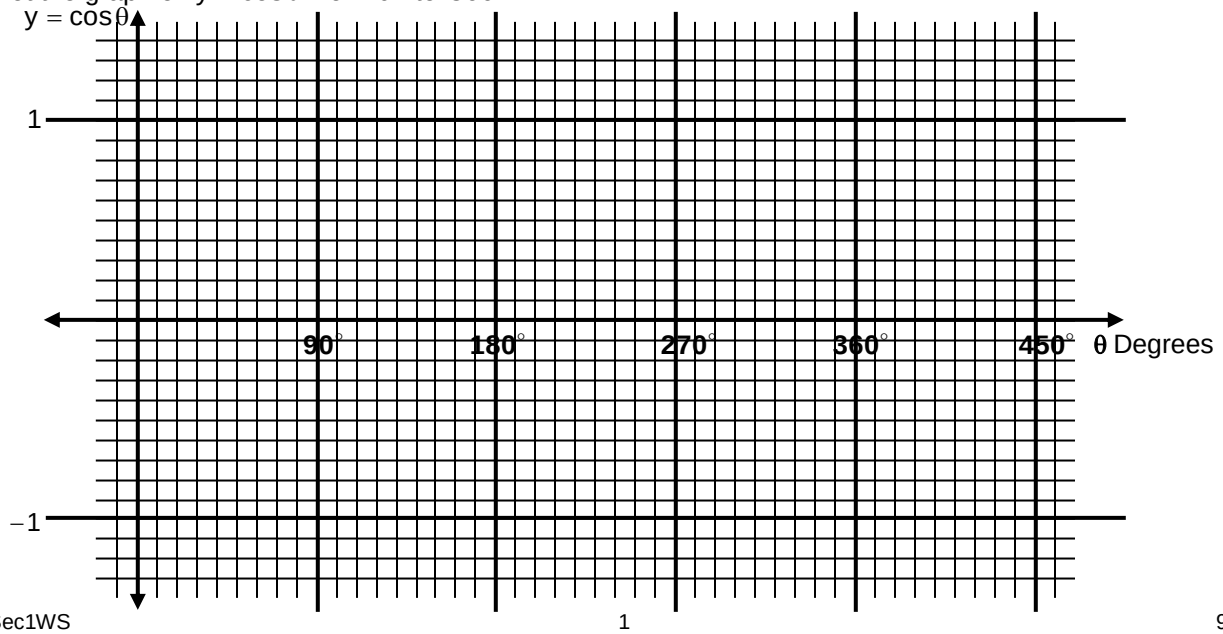
θ	$\cos\theta$
0°	
10°	
20°	
30°	
40°	
50°	
60°	

θ	$\cos\theta$
70°	
80°	
90°	
180°	
270°	
360°	

2) Plot the graph of $y = \sin\theta$ from 0° to 360°. Once you have made an accurate graph between 0° and 90°, you should be able to extend the graph to 360° just by graphing the $\sin 180^\circ$, $\sin 270^\circ$, and $\sin 360^\circ$ values.



3) Plot the graph of $y = \cos\theta$ from 0° to 360°.



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4) What similarities and differences do you notice between the graphs of the sine and cosine functions?

5) Find $\sin 45^\circ$ and $\cos 65^\circ$. Show that the corresponding points are on the graphs in problems 2 and 3.

$\sin 45^\circ \approx$ point to graph: ( ) $\cos 65^\circ \approx$ point to graph: ( )

$\approx$ $\approx$

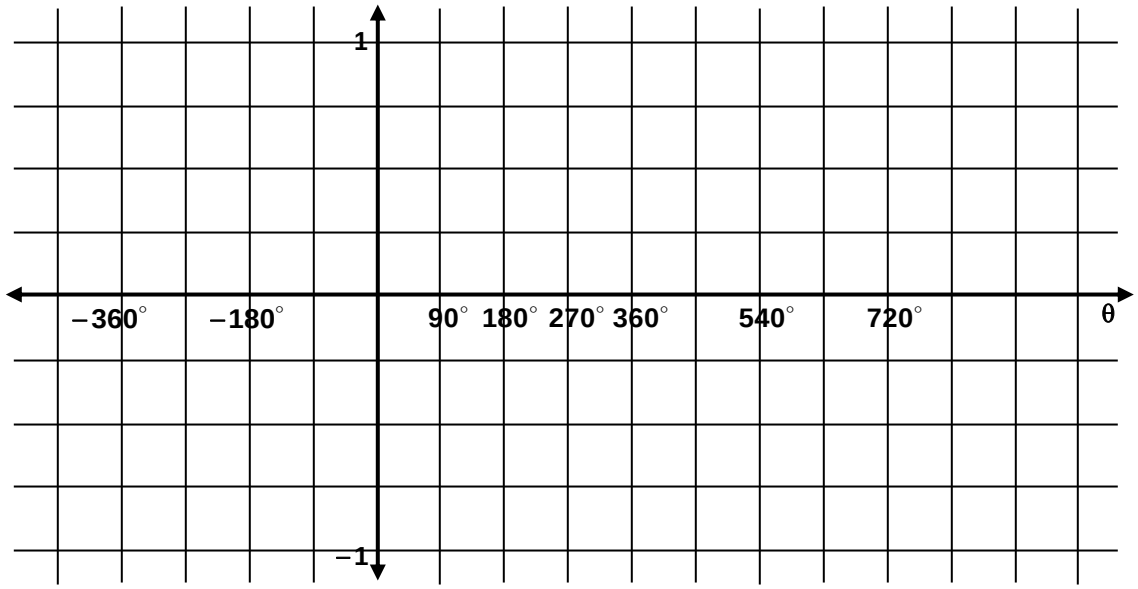
6) Find $\theta = \sin^{-1}(0.4)$ and $\theta = \cos^{-1}(0.8)$. Show that the corresponding points are on the graphs in problems 2 & 3.

$\theta = \sin^{-1}(0.4)$ point to graph: ( ) $\theta = \cos^{-1}(0.8)$ point to graph: ( )

$\approx$ $\approx$

$\approx$ $\approx$

7) Every angle between 360° and 720° is coterminal with an angle between 0° and 360°. So sines and cosines of these larger angles are repeats of the values between 0° and 360°. The same is true for angles from -360° through 0°. Sketch the graphs of $y = \sin\theta$ (draw solid) and $y = \cos\theta$ (draw dashed) from -360° to 720°.



8) What are the domain and range of the sine and cosine functions?

9) What special name is given to functions whose graphs repeat themselves, as do the sine and cosine graphs?

10) Name at least two real-world situations in which two variables are related by a graph that looks like the sine or cosine function graph.

1)

2)