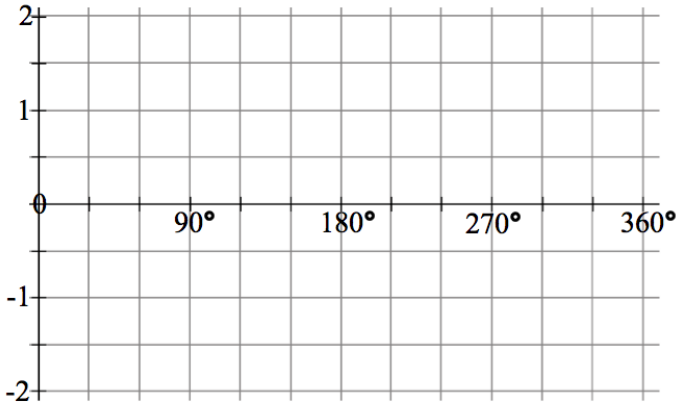
Graphing Sine and Cosine Functions Worksheet
MCR3U
Jensen

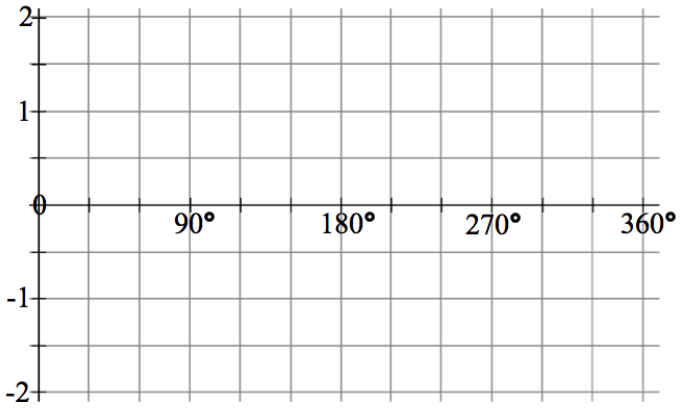
1) Graph the function $y = sinx$ using key points between 0° and 360°.

x	y



2) Graph the function $y = cosx$ using key points between 0° and 360°.

x	y



3) Determine the phase shift and the vertical shift of y=sinx.

a) $y = \sin(x - 50°) + 3$

b) $y = 2\sin(x + 45°) - 1$

4) Determine the phase shift and the vertical shift of y=cosx.

a) $y = -9\cos(x + 120°) - 5$

b) $y = 12\cos[5(x - 150°)] + 7$

5) Determine the amplitude, the period, phase shift, vertical shift, maximum and minimum for each of the following.

a) $y = 5\sin[4(x + 60°)] - 2$

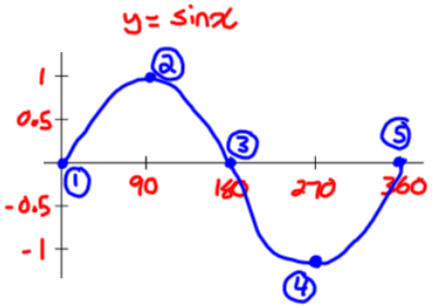
b) $y = 2\cos[2(x + 150°)] - 5$

c) $y = \frac{1}{2}\sin[\frac{1}{2}(x - 60°)] + 1$

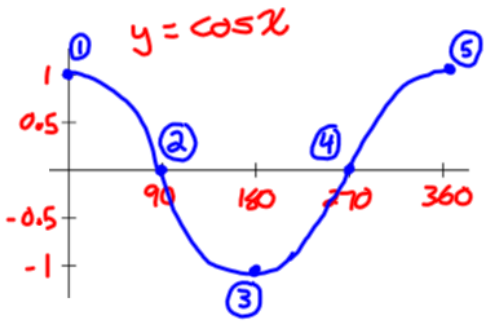
d) $y = 0.8\cos[3.6(x - 40°)] - 0.4$

Answers

1)



2)



3) a) phase shift: right 50° **b)** phase shift: left 45°
vertical shift: up 3 units vertical shift: down one unit

4) a) phase shift: left 120° **b)** phase shift: right 150°
vertical shift: down 5 units vertical shift: up 7 units

5) a) amplitude: 5 period: 90° phase shift: left 60°
vertical shift: down 2 units max: 3 min: -7

b) amplitude: 2 period: 180° phase shift: left 150°
vertical shift: down 5 units max: -3 min: -7

c) amplitude: $\frac{1}{2}$ period: 720° phase shift: right 60°
vertical shift: up 1 unit max: 1.5 min: 0.5

d) amplitude: 0.8 period: 100° phase shift: right 40°
vertical shift: down 0.4 units max: 0.4 min: -1.2