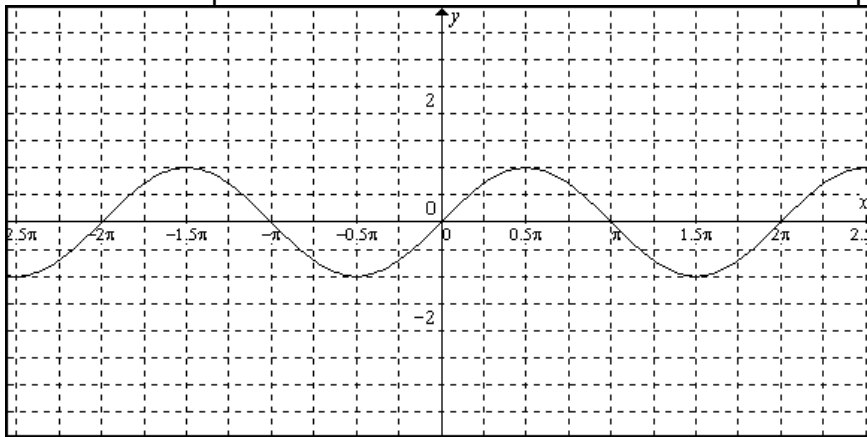


# Sine and Cosine Curves

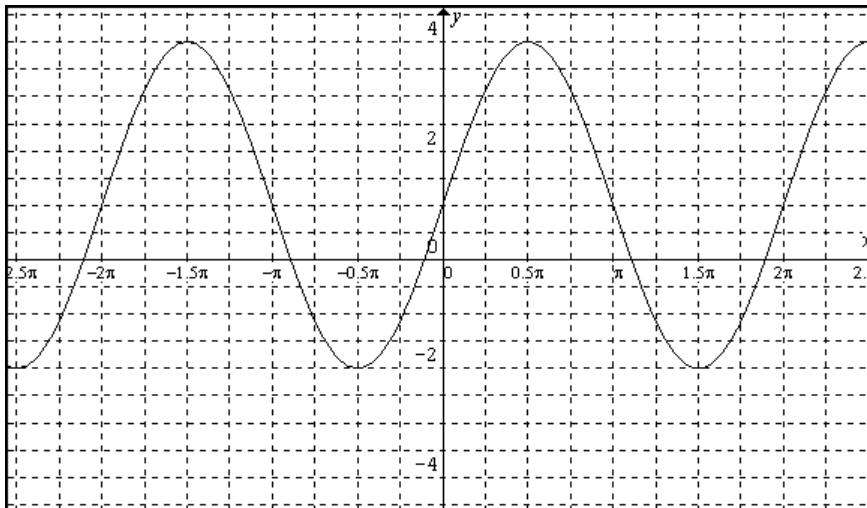
Name: \_\_\_\_\_

1. Make an equation as a sine curve and make a second equation as a cosine curve.



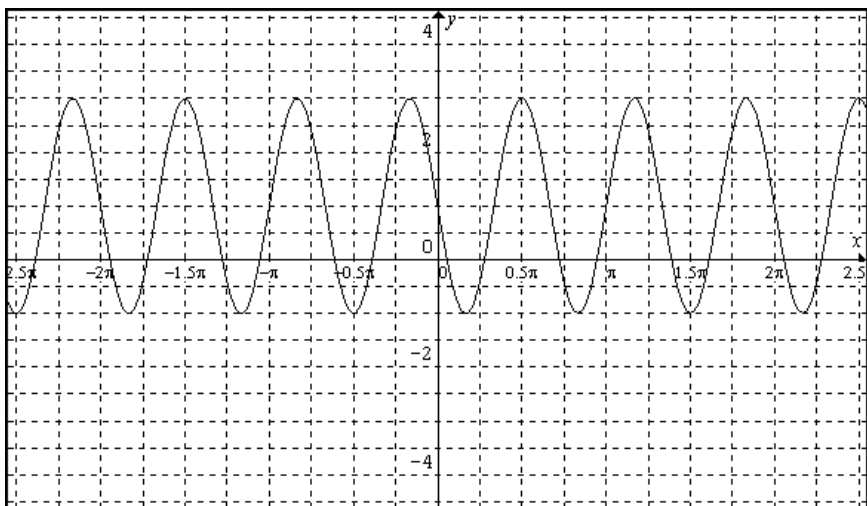
Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_



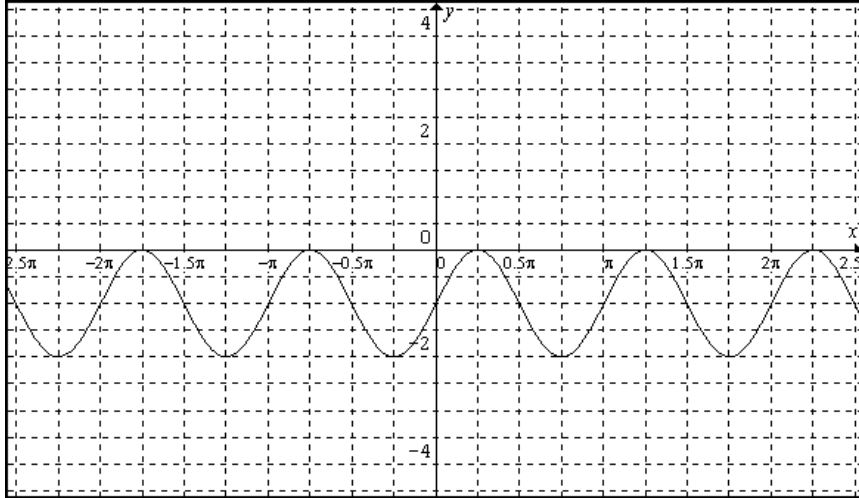
Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_



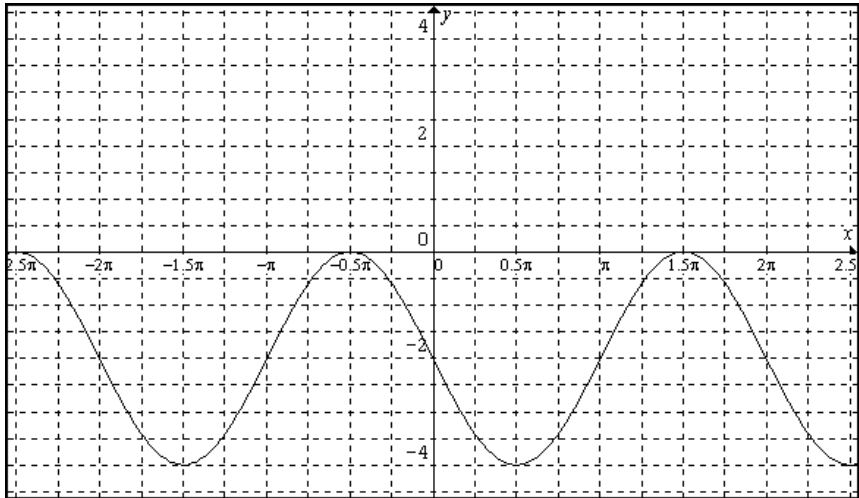
Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_



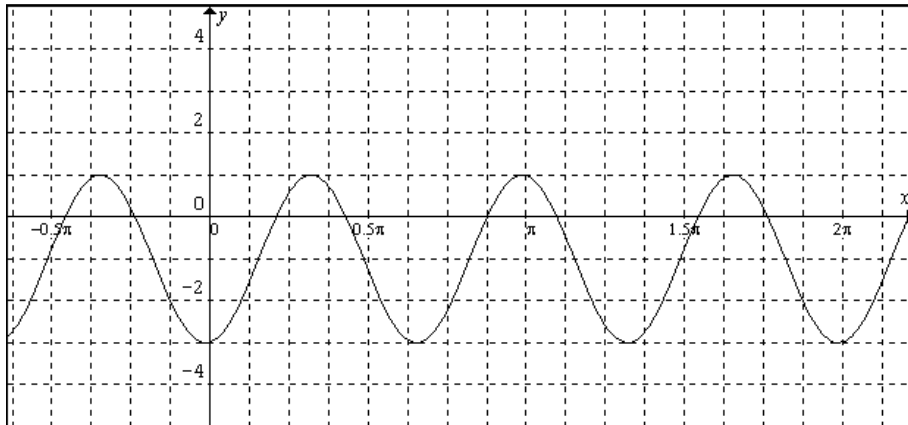
Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_



Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_



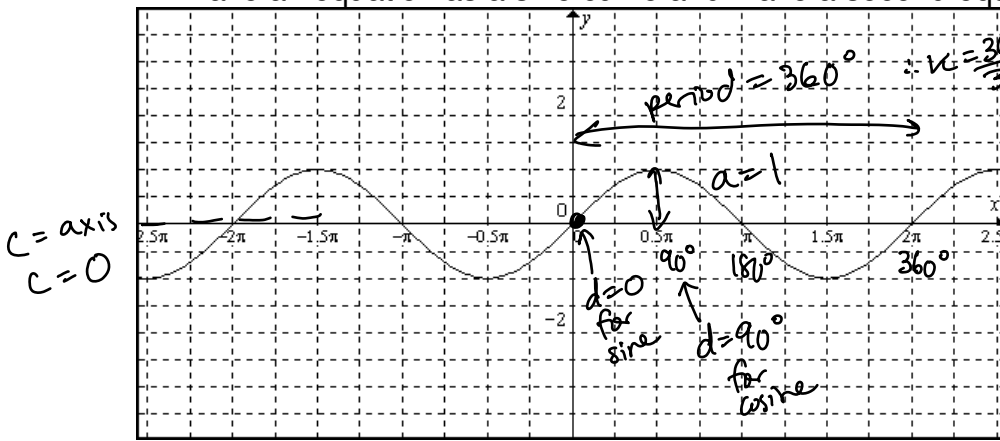
Sine: \_\_\_\_\_

Cosine: \_\_\_\_\_

# Sine and Cosine Curves

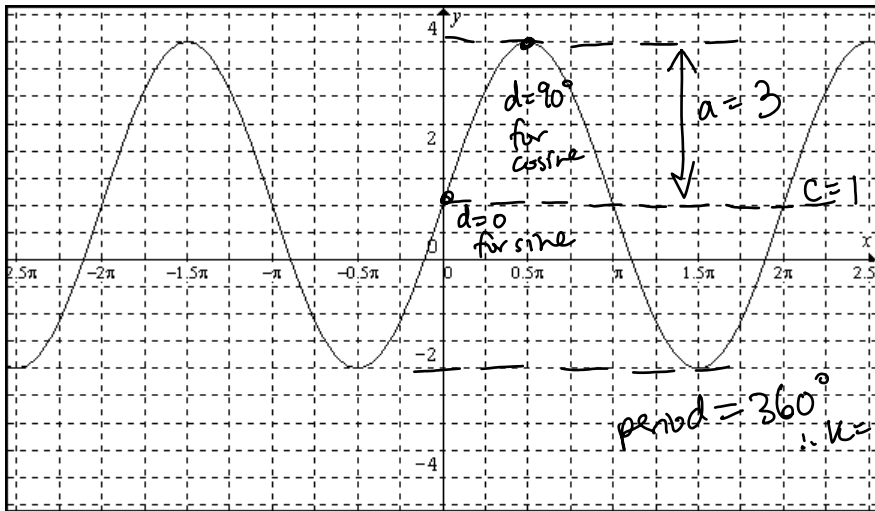
Name: ANSWERS

1. Make an equation as a sine curve and make a second equation as a cosine curve.



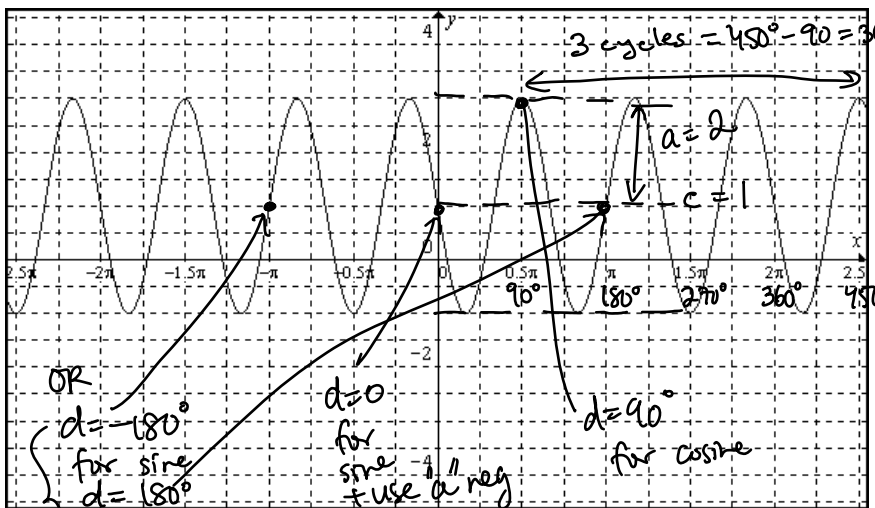
Sine:  $y = \sin x$

Cosine:  $y = \cos(x - 90^\circ)$   
 MANY other answers possible  
 $y = -\sin(x + 180^\circ)$   
 $y = -\cos(x + 90^\circ)$  etc...



Sine:  $y = 3 \sin x + 1$

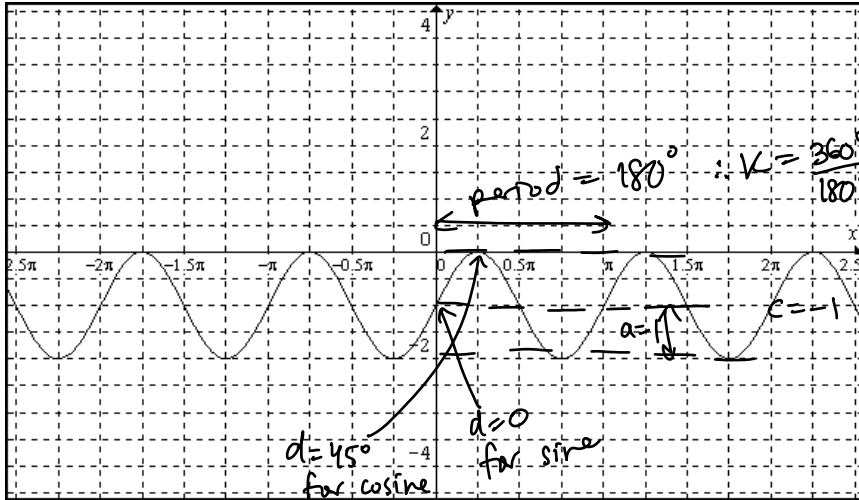
Cosine:  $y = 3 \cos(x - 90^\circ) + 1$



Sine:  $y = -2 \sin 3x + 1$   
 OR  $y = 2 \sin 3(x \pm 180^\circ) + 1$

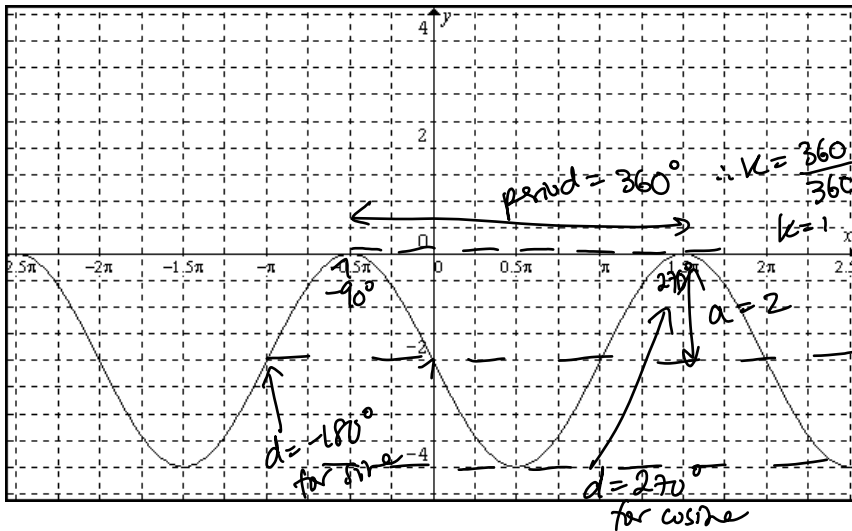
Cosine:  $y = 2 \cos 3(x - 90^\circ) + 1$

with positive "a" for sine



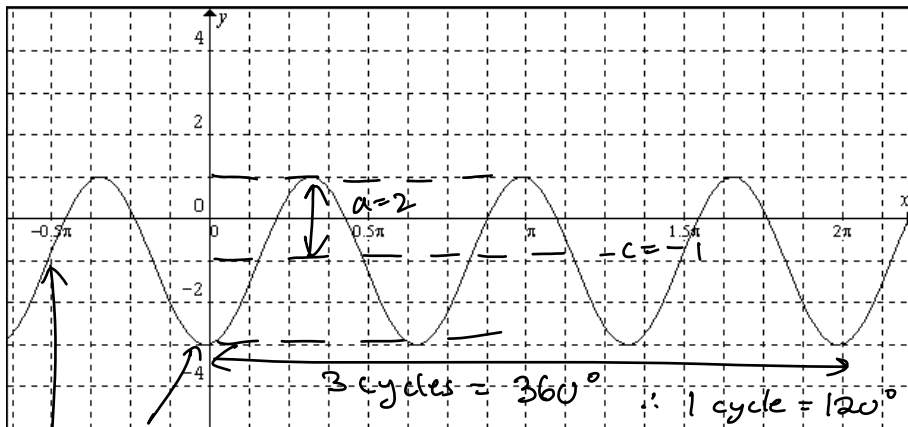
Sine:  $y = \sin 2x - 1$

Cosine:  $y = \cos 2(x - 45^\circ) - 1$



Sine:  $y = 2 \sin(x + 180^\circ) - 2$

Cosine:  $y = 2 \cos(x - 270^\circ) - 2$



Sine:  $y = 2 \sin 3(x + 90^\circ) - 1$

Cosine:  $y = -2 \cos 3x - 1$

$d = 0$   
for cosine  
with neg "a"

$\therefore k = \frac{360}{120} = 3$

$d = -90^\circ$   
for sine