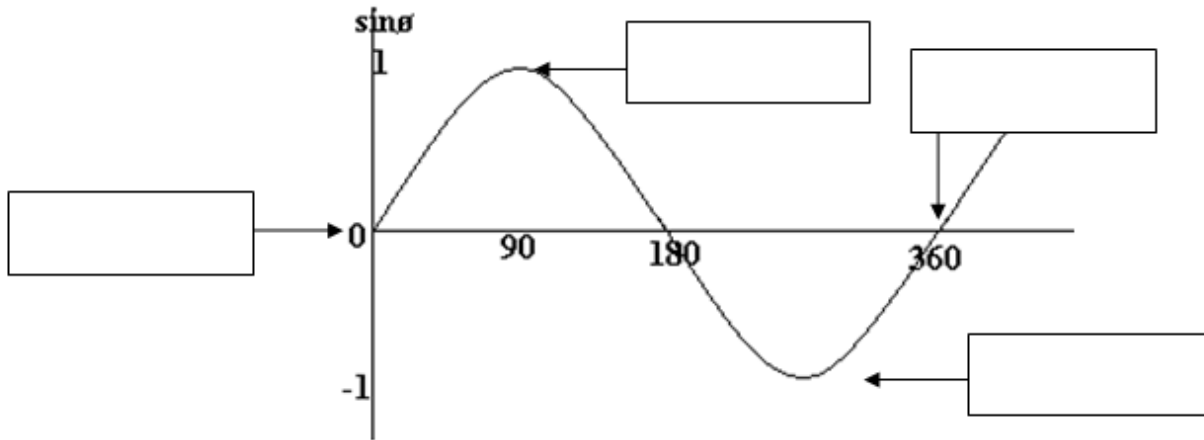


# Day 3 & 4: Graphing Sine & Cosine

## I. Sine Graph



a. Sine is increasing:

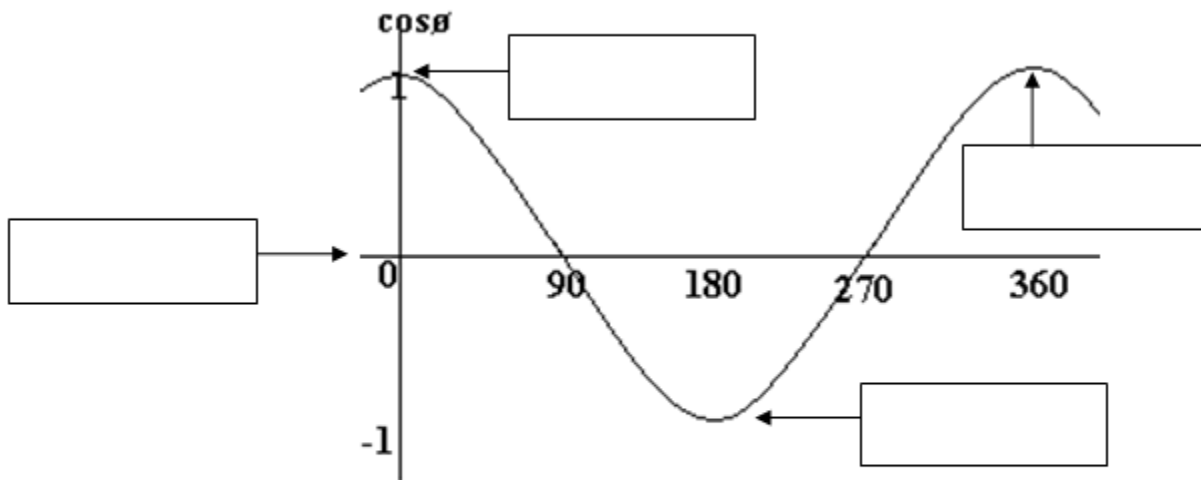
c. Sine is positive:

b. Sine is decreasing:

d. Sine is negative:

Degree	Sinx	Point (Degree, Sinx)
0		
30		
60		
90		
120		
150		
180		
210		
240		
270		
300		
330		
360		

II. Cosine Graph



a. Cosine is increasing:

c. Cosine is positive:

b. Cosine is decreasing:

d. Cosine is negative:

Degree (x)	Cosx	Point (x, Cosx)
0		
30		
60		
90		
120		
150		
180		
210		
240		
270		
300		
330		
360		

**Check Point:**

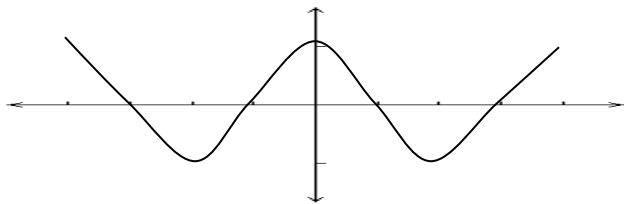
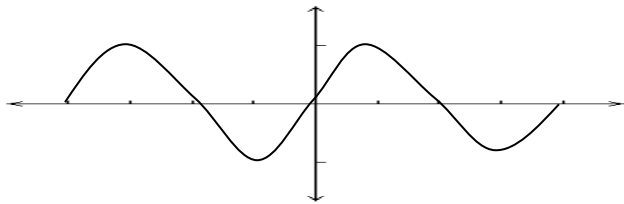
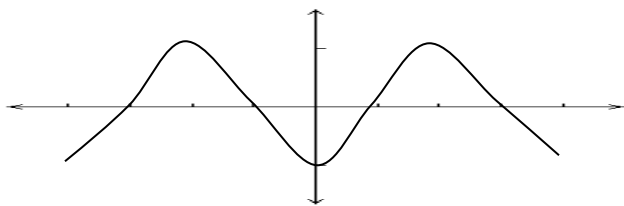
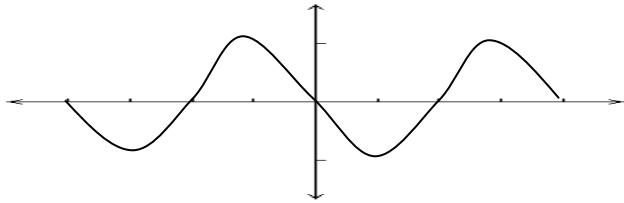
Match each equation with the correct graph.

A.  $y = \cos(x)$

B.  $y = \sin(x)$

C.  $y = -\cos(x)$

D.  $y = -\sin(x)$



## III. Amplitude

- a. A graph in the form \_\_\_\_\_ or \_\_\_\_\_ has an amplitude of \_\_\_\_\_.
- b. The amplitude of a standard \_\_\_\_\_ or \_\_\_\_\_ graph is \_\_\_\_\_.
- c. The amplitude of a sine or cosine graph can be found using the following formula:

- d. Find the amplitude for each of the following:

1.  $y = 3\sin x$

2.  $y = -4\cos 5x$

3.  $y = (1/3)\sin x + 5$

## IV. Midline

- a. The midline is the line that \_\_\_\_\_
- b. The midline is halfway between the \_\_\_\_\_ and \_\_\_\_\_
- c. The midline can be found using the following formula:

- d. When there is no vertical shift, the midline is always \_\_\_\_\_.

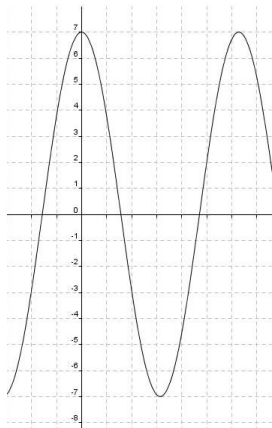
V. Amplitude and Midline from a Graph

a. The amplitude can be found from a graph by using the following formula:

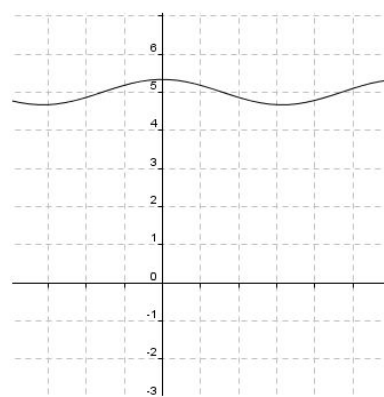
b. The midline can be found from a graph by using the following formula:

c. Find the amplitude and midline for each of the following graphs:

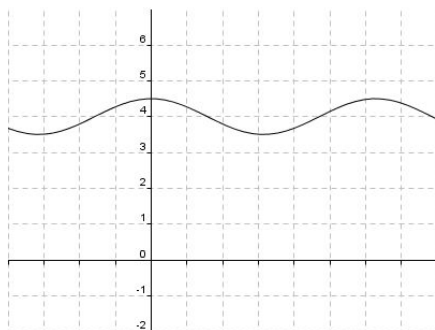
1.



2.



3.



4.

