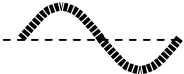


## Precalculus Worksheet #3 Chapter 5 Selected Solutions

Sketch a graph of each of the following.

1.  $y = 1.5\sin(x - \pi/4) + 0.5$

$y = A\sin(Bx + C) + D$

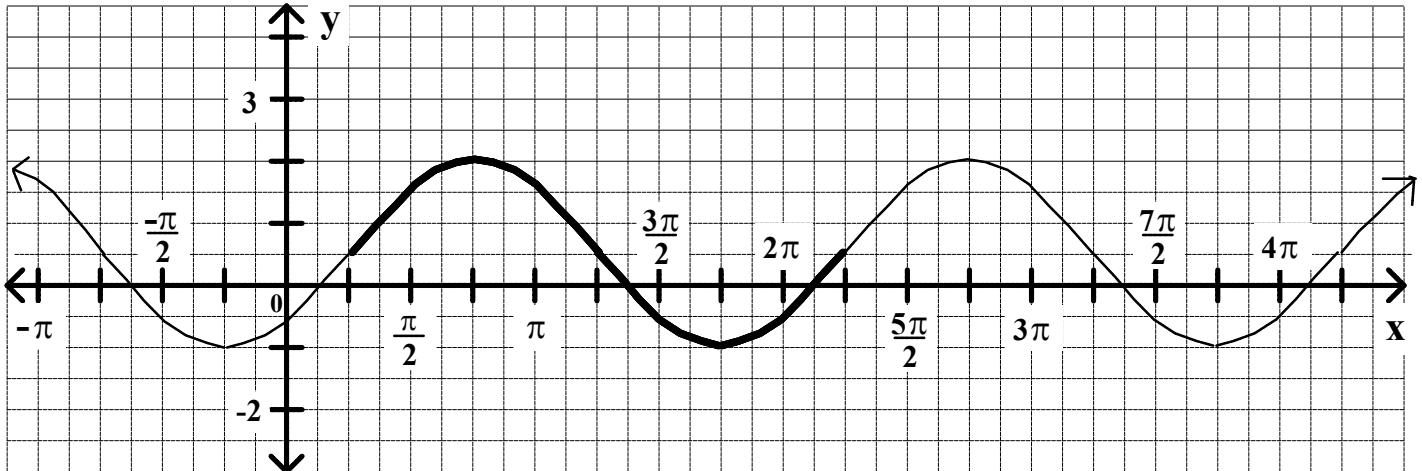
$A = +1.5 \rightarrow$  Amplitude:  $|A| = 1.5$  Since  $A > 0 \rightarrow$  

mid-line :  $y = D \rightarrow y = 0.5$

basic cycle begins on the midline :  $Bx + C = 0 \rightarrow x - \pi/4 = 0 \rightarrow x = \pi/4$

basic cycle ends on the midline :  $Bx + C = 2\pi \rightarrow x - \pi/4 = 2\pi \rightarrow x = 9\pi/4$

(The basic cycle is shown as a darker line in the graph.)



7.  $y = 3\cos(\pi x/3) - 3$

$y = A\cos(Bx + C) + D$

$A = +3 \rightarrow$  Amplitude:  $|A| = 3$  Since  $A > 0 \rightarrow$  

mid-line :  $y = D \rightarrow y = -3$

basic cycle begins 3 units above the midline :  $Bx + C = 0 \rightarrow \pi x/3 = 0 \rightarrow x = 0$

basic cycle ends 3 units above the midline :  $Bx + C = 2\pi \rightarrow \pi x/3 = 2\pi \rightarrow x = 6$

(The basic cycle is shown as a darker line in the graph.)

