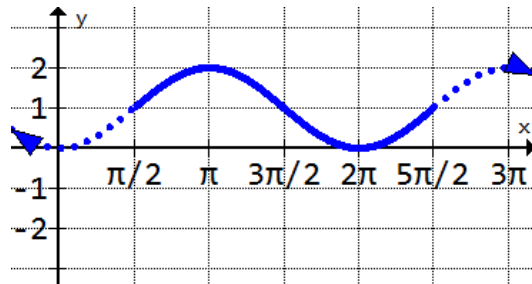
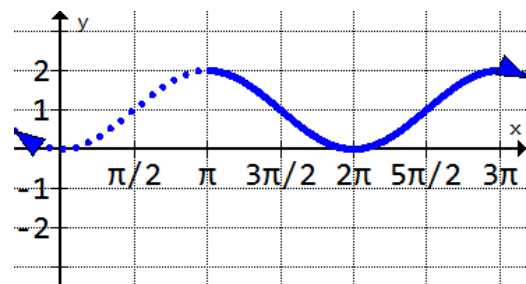
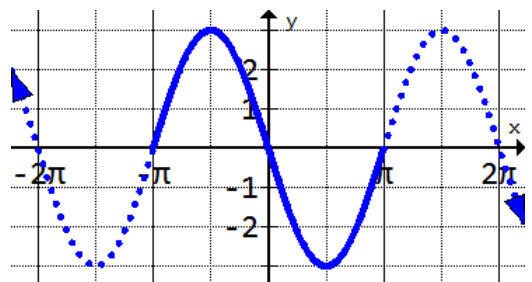
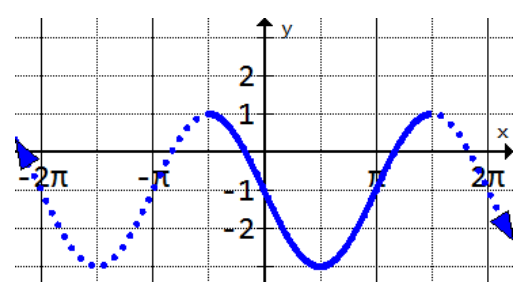
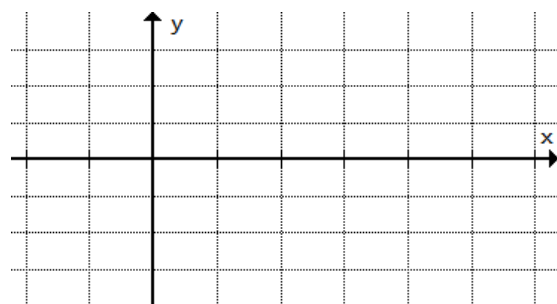
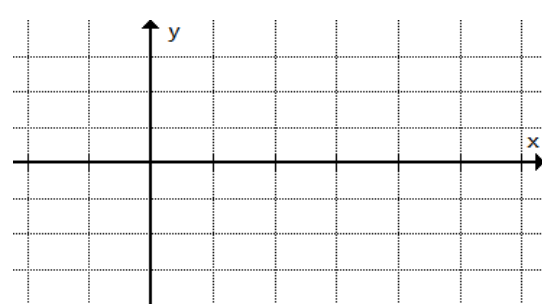
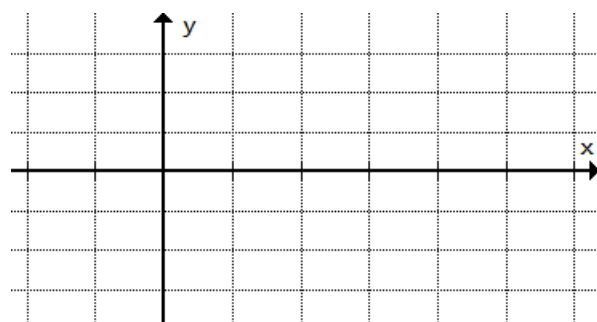
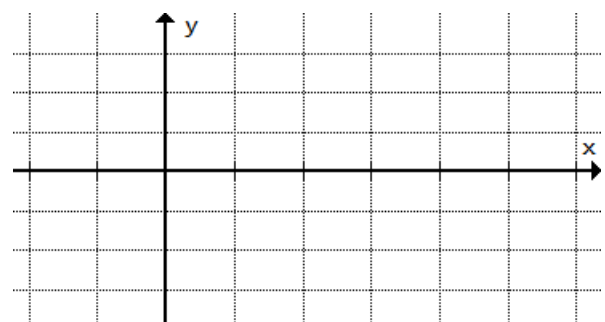


## Transforming Sine and Cosine Graphs

**Practice: C-Level** Give an equation for each of the following graphs.

a)  $y =$ b)  $y =$ c)  $y =$ d)  $y =$ 

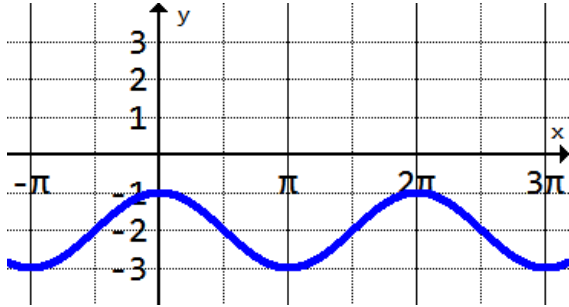
2) Sketch each of the following graphs.

a)  $y = \sin(x - \pi) + 1$ b)  $y = 3 \cos(x - \pi) + 1$ c)  $y = -2 \sin(x + \pi) - 2$ d)  $y = -3 \cos(x - \frac{\pi}{2}) - 2$ 

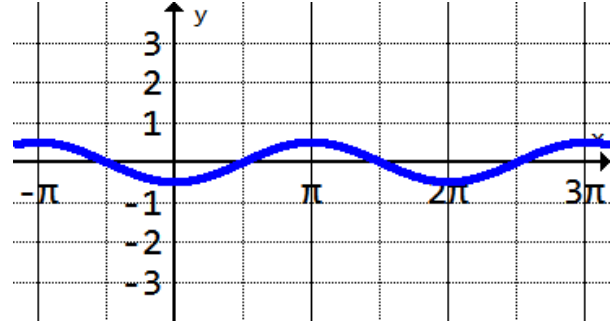
**B Level**

Give a sine **and** cosine equation for each of the following graphs. You may use either a positive or negative amplitude.

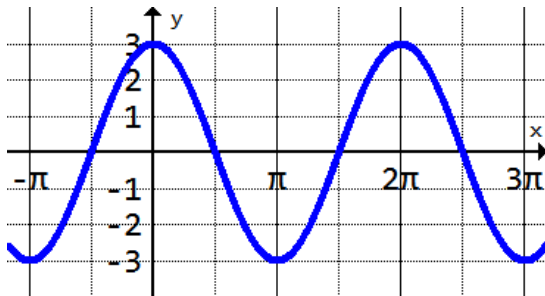
a)  $y =$                        $y =$



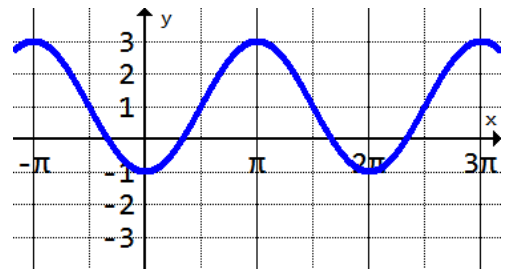
b)  $y =$                        $y =$



c)  $y =$                        $y =$



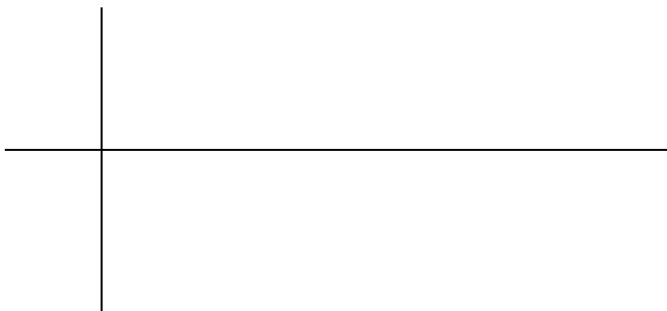
d)  $y =$                        $y =$



**Looking ahead:**

Graph:

a)  $y = \sin(2x)$



Write the equation:

b)

