

# MCR 3U Chapter 1 Test

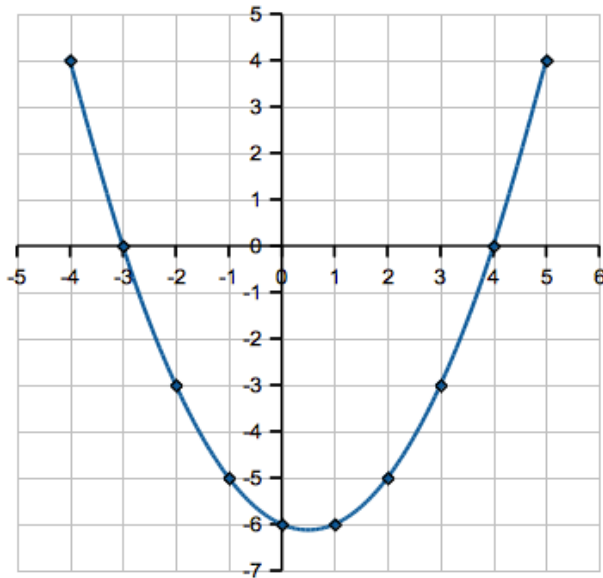
September 28, 2010

Mr. Oldridge

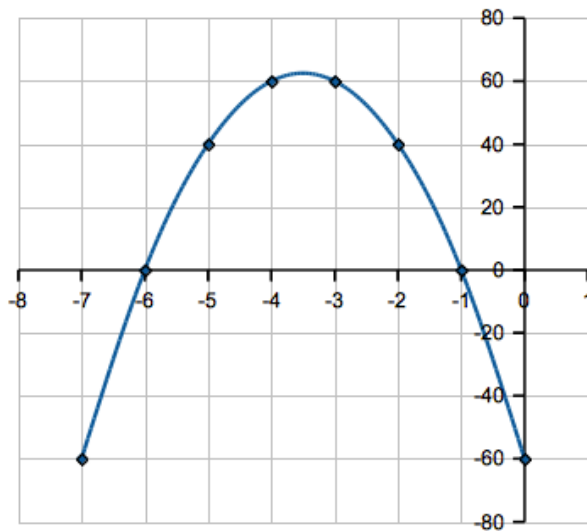
Name: \_\_\_\_\_

1. Find the equation that represents these parabolas.

a)



b)



2. Find the point(s) of intersection between  $y = -4x^2 - 15x - 6$  and  $y = -3x + 2$

3. Find the co-ordinates of the vertex of these parabolas:

a)  $y = x^2 + 6x + 11$

b)  $y = -2x^2 + 16x - 7$

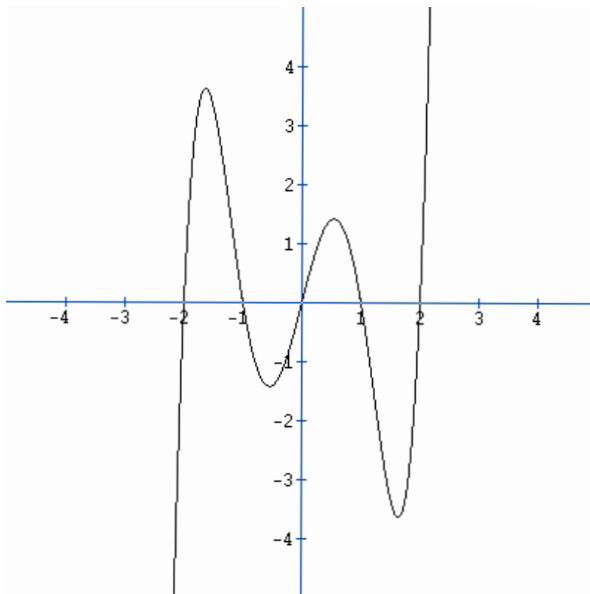
4. Please determine where these parabolas intersect the x-axis:

a)  $f(x) = x^2 - 2x - 35$

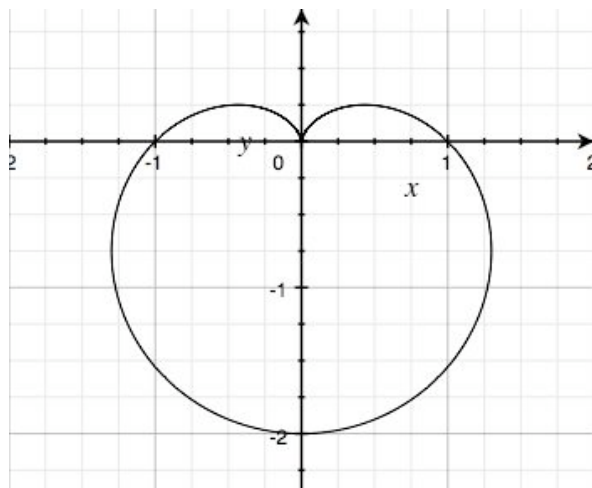
b)  $h(x) = 17.3x^2 + 3.2x - 19.4$

5. Find the domain and range of the following functions:

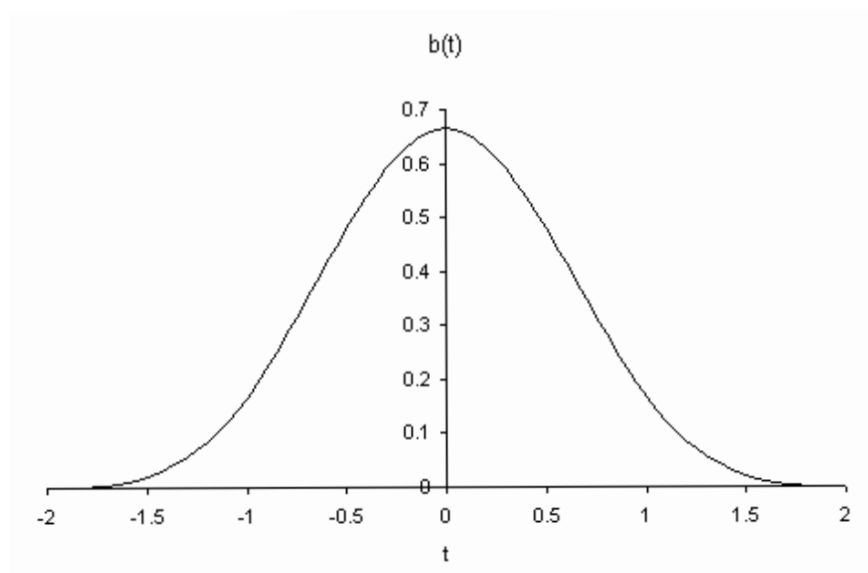
a)



b)



c)



6.

a) Is the graph in 5(a) a “function”? How do you know?

b) Is the graph in 5(b) a “function”? How do you know?

c) Is the graph in 5(c) a “function”? How do you know?

7. HOW MANY x-intercepts do each of the following function have? You do not have to state what the x-intercepts are.

a)  $9x^2 - 2x + 15 = 0$

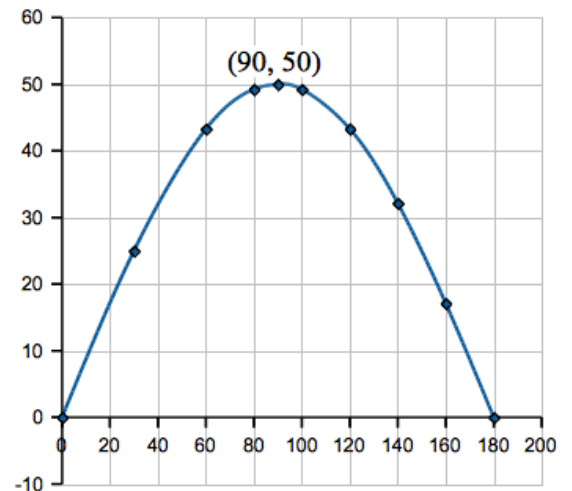
b)  $-9x^2 + 6x - 1 = 0$

c)  $x^2 + 1 = 0$

d)  $x^2 - 2x + 1 = 0$

8. Pictured is an important curve that we will learn more about later in the course.

a) Determine an equation that models the curve, given the graph at right.



b) BONUS (1) if you can guess what significance the curve has (NO HINTS):