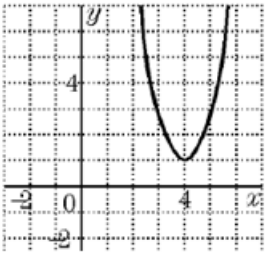
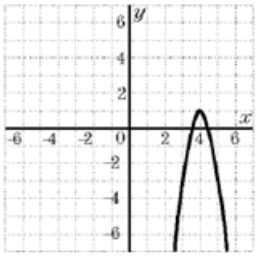
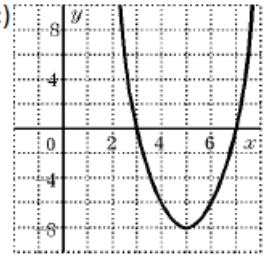
Name:_____ Date:_____

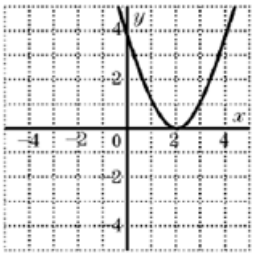
Pre Calculus 11: Ch3/4 HW Lesson 4 Domain, Range, and Using your Ti-83

1. Indicate the number of roots for each of the following quadratic functions:

a) 

b) 

c) 

d) 

2. Define the *"domain of a function"* using your own words:

3. What is the difference between domain and range?

4. How do you know that the domain or range of a function will be "all real numbers" $\left[x \in \mathbb{R}\right]$? Explain:

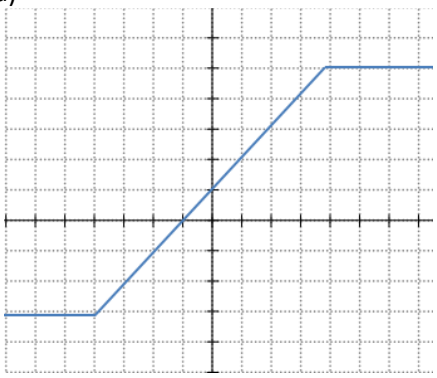
5. What is the domain and range of a linear function?

6. What is the domain of a quadratic function?

7. How do you find the range of a quadratic function? Explain:

8. Given each of the following graphs, indicate the domain and range:

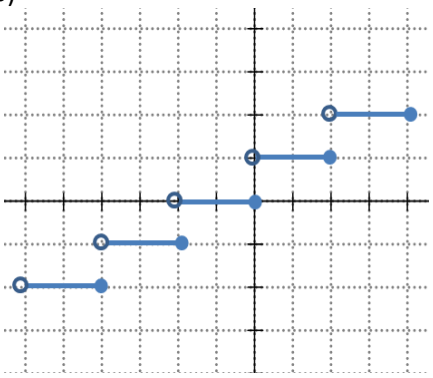
a)



Domain:

Range:

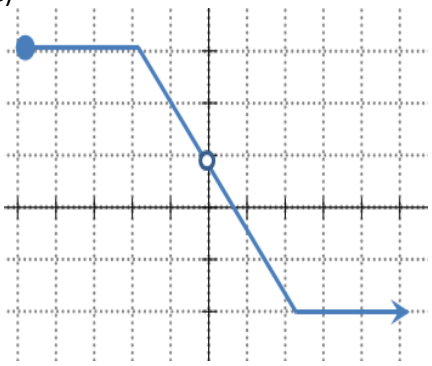
b)



Domain:

Range:

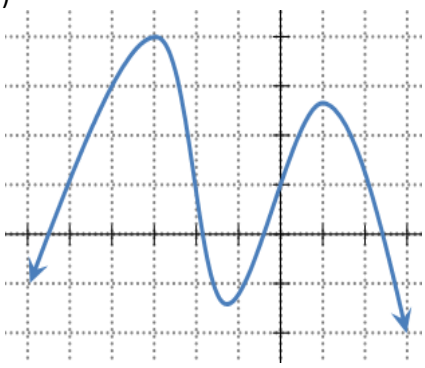
c)



Domain:

Range:

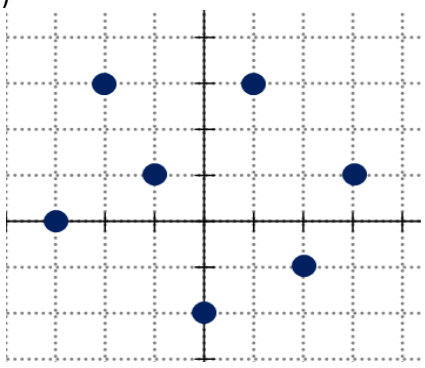
d)



Domain:

Range:

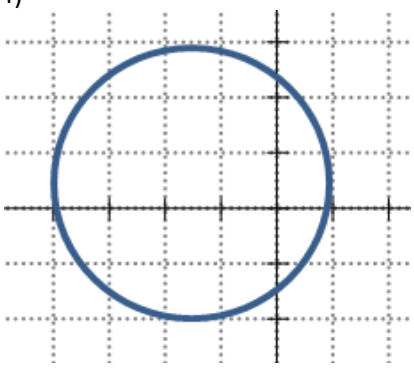
e)



Domain:

Range:

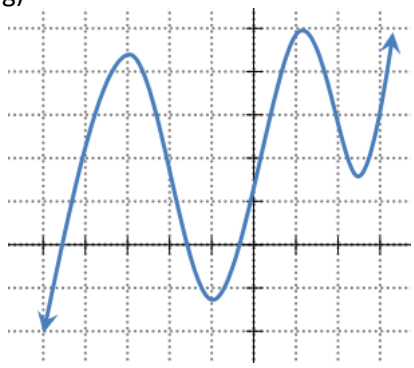
f)



Domain:

Range:

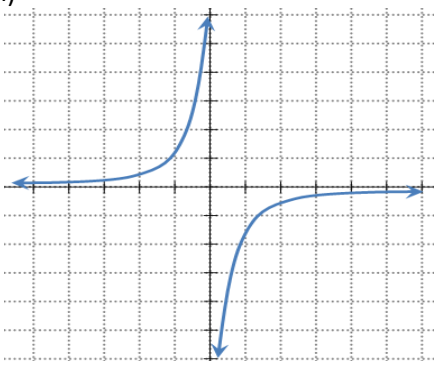
g)



Domain:

Range:

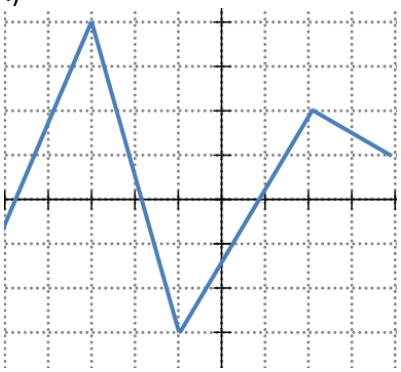
h)



Domain:

Range:

i)

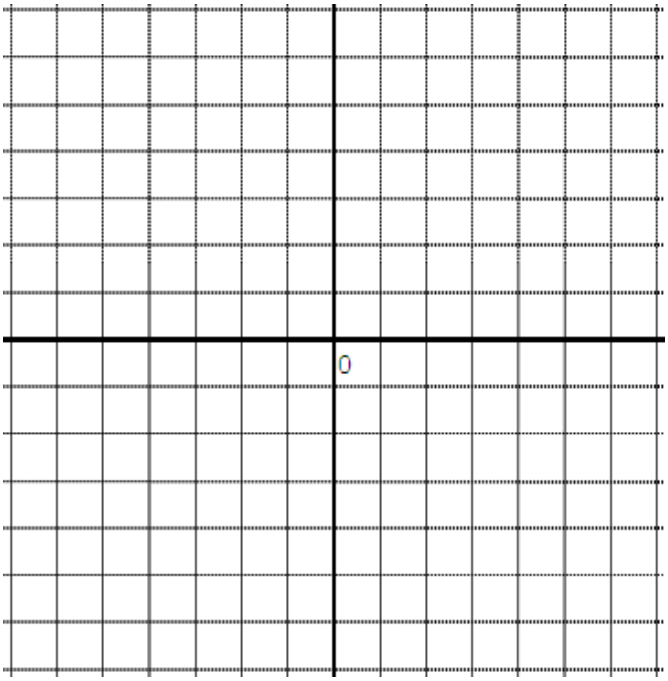


Domain:

Range:

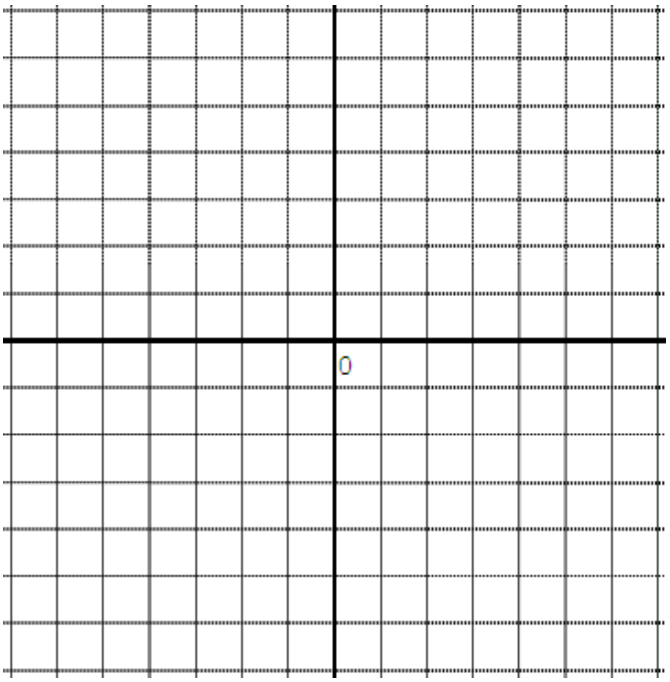
9. Given each function, graph it on your calculator, graph it on the grid provided, and find the following:

a) Equation: $y = 2x - 5$



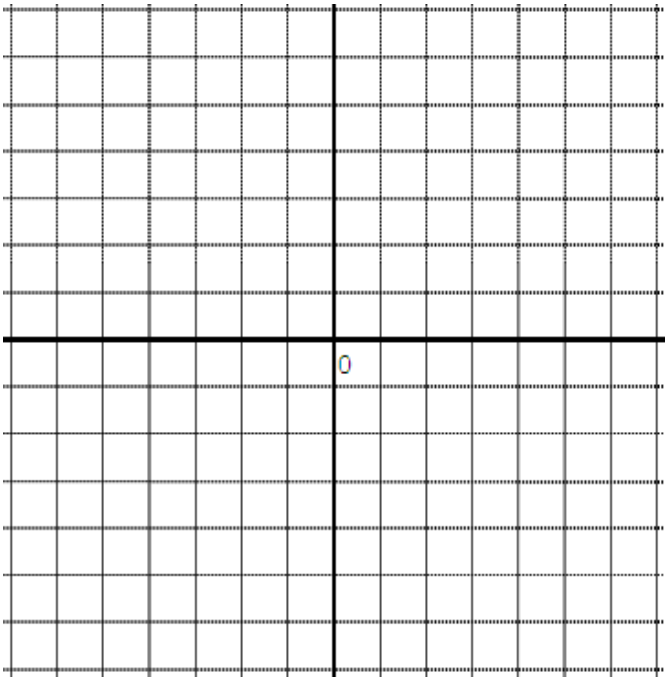
Y-Intercept:_____ X-intercept:_____

b) Equation: $y = x^2 - 8$



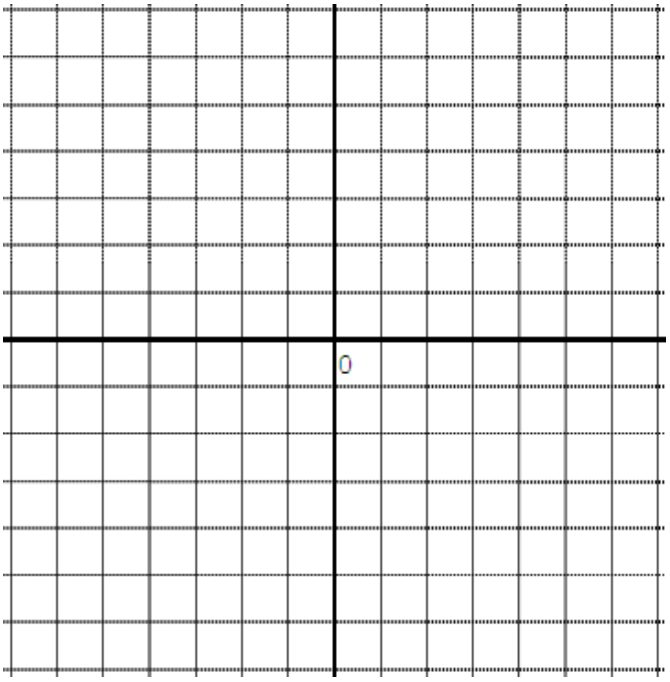
Y-Intercept:_____ X-intercept:_____

c) Equation: $y = 2x^2 - 3x - 10$



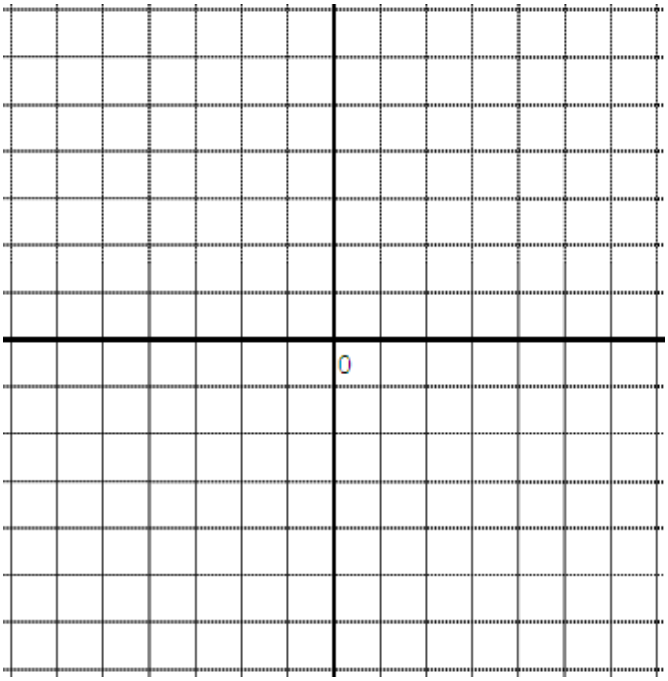
Vertex:_____ Xintercept:_____

d) Equation: $y = -3x^2 + 8x + 12$



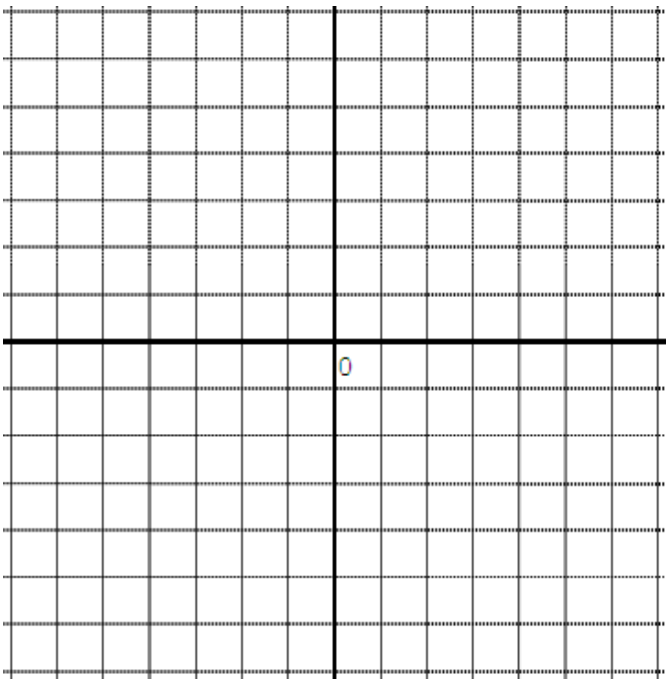
Vertex:_____X-intercept:_____

e) Equation: $y = -0.5x^2 + 8x + 20$



Vertex:_____ Range:_____

f) Equation: $y = \frac{1}{2}(x-4)(x+5)$



Vertex:_____ Range:_____

10. The roots of a quadratic equation are 5 and 1.25. Find the equation:

11. The height of a football (h) tossed by a quarterback is given by the equation $h = -4.9t^2 + 19t + 1.4$, where "t" is the numbers of seconds after the ball is tossed. Find out how long it will take for the ball to hit the ground.

    b) What is the domain and range of this function?

12. 24 meters of fencing are used to enclose a rectangular garden.
    i) Write an equation for the area (A) of the garden as a function of the length of one side.

    ii) Then find the length of one side if the area of the garden is 30m

    iii)What is the domain and range of this scenario?