Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Accelerated Geometry

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_ Module 3 Test Review

**Determine the x AND y intercepts of the following functions:**

1) 2)

3) 4)

**Determine whether the given functions have a maximum or minimum value and where that value lies:**

5) 6)

**Determine the vertex and end behavior of the given functions:**

7) 8)

**Graph each of the following functions and list the characteristics: (Separate paper)**

**a) direction b) vertex c) AOS d) domain e) range**

**f) X-intercepts G) Y-intercept h) Max/Min? Where? I) Int of Inc/Dec j) end behavior**

9) 10)

11) 12)

13) 14)

**List the transformations for the following functions.**

15) 16)

**Determine the transformations from the parent graph of :**

17) 18)

**Rewrite the following into standard form:**

19) 20)

**Write a quadratic function with the following transformations of the parent graph .**

21) A horizontal stretch of 6, shift up 8, and a reflection over the y-axis

22) Vertical shrink by 1/4, shift right 3, shift down 1

23) Reflection over the x-axis, a horizontal shrink of 3/4,

**Determine the Domain, Range, and Intervals of Increase/Decrease of the functions:**

24) Use your answer to #20 25) Use your answer to #22

26) A dolphin jumps out of the water. The path the dolphin travels is modeled by where h represents the height of the dolphin and d represents horizontal distance.

* What is the maximum height the dolphin reaches?
* How far did the dolphin jump?

27) A model rocket is launched from the roof of a building. Its flight path is modeled by where h is the height of the rocket above the ground in meters and t is the time after the launch in seconds. What is the rocket’s maximum height?

28) If is shifted up 4 and right 2 and is shifted left 5 and down 7,

a) Which function has a higher maximum?

b) Which function’s interval of decrease starts further right?

29) Use the average rate of change to determine over which interval is the function the steepest.

1. b) c.

30) Given the function , convert to vertex form, then identify the range, interval of increase and interval of decrease.