Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebra Quadratic Graphing TEST REVIEW

Graph the following quadratic functions:

1.  y $<$ x2 - 5 2. y $\leq $ -2x2 + 1



1.  y $\geq $ $\frac{1}{2}$x2 – 4 4. Y $>$ -x2 + 6



5. f(x) = -2x2 – 10x + 1

AOS \_\_\_\_\_\_\_\_\_\_\_\_

Vertex \_\_\_\_\_\_\_\_\_\_\_

y-intercept \_\_\_\_\_\_\_\_\_\_\_\_

domain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

range \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

increasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_

decreasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_

as x$\rightarrow -\infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_

as x$\rightarrow \infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_\_

6. f(x) = $\frac{1}{3}$(x + 3)2 – 2

AOS \_\_\_\_\_\_\_\_\_\_\_\_

Vertex \_\_\_\_\_\_\_\_\_\_\_

y-intercept \_\_\_\_\_\_\_\_\_\_\_\_

domain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

range \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

increasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_

decreasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_

as x$\rightarrow -\infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_

as x$\rightarrow \infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Write the functions in order from most narrow to widest

A. y = x2 – 3x B. y = -3x2 + 5x – 1 C. y = - $\frac{2}{3}$x2 + 2x – 1

D. y = 5x2 – 2 E. y = $\frac{1}{5}$x2 + 5

Without graphing, answer the following:

8. y = $\frac{1}{4}($x – 24)2 + 50 9. y = -5x2 + 28x – 24

A. AOS \_\_\_\_\_\_\_\_\_ A. AOS \_\_\_\_\_\_\_\_\_

B. vertex \_\_\_\_\_\_\_\_\_\_\_ B. vertex \_\_\_\_\_\_\_\_\_\_\_

C. y-intercept \_\_\_\_\_\_\_\_ C. y-intercept \_\_\_\_\_\_\_\_

D. Domain \_\_\_\_\_\_\_\_\_\_\_ D. Domain \_\_\_\_\_\_\_\_\_\_\_

E. Range \_\_\_\_\_\_\_\_\_\_\_\_ E. range \_\_\_\_\_\_\_\_\_\_\_\_\_

F. vertex is max/min? \_\_\_\_\_\_ F. vertex is max/min? \_\_\_\_\_\_

G. graph is more wide or narrow than y = x2? G. graph is more wide or narrow than y = x2?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

H. as x$\rightarrow -\infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_ H. as x$\rightarrow -\infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_

as x$\rightarrow \infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_\_ as x$\rightarrow \infty , f\left(x\right)\rightarrow $\_\_\_\_\_\_\_\_\_\_\_\_\_

For #10-14 write a function in vertex form:

10. y = -2x2 – 12x + 20 11. Y = 5x2 + 40x + 12

12. contains (0, 104) vertex is (12, 8) 13. Contains (0, -2) vertex (-1, -7)

14.

15. A ball is thrown with an initial upward velocity of 50 ft/s. Its height h in feet after t seconds is given by the function h = -16t2 + 50t + 6.

A. After how many seconds does the ball reach its maximum height?\_\_\_\_\_\_\_

B. what is the maximum height? \_\_\_\_\_\_\_\_\_\_

16. A small company markets a new toy. The function S = -64p2 +2400p predicts in dollars, the total sales S as a function of the price p of a toy.

A. If the price is $25, what are the total sales? \_\_\_\_\_\_\_\_\_\_

B. Which price will produce the highest sales? \_\_\_\_\_\_\_\_\_\_\_\_

C. What is the maximum sales predicted? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. Write the function in standard form: f(x) = 2(x – 6)2 + 12