Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 5-2 Standard Form of a Quadratic Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hour\_\_\_\_\_\_

HW #2

Rewrite each function in standard form (y = ax2 + bx +c). Determine if it is quadratic or linear.

1. f(x) = x(x+5) – 2x 1)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. f(x) = 8x2 + 10 – 6x – 8x2 2)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What are the vertex, the axis of symmetry, the maximum or minimum value, and the range of each parabola? (Hint: Label a, b, and c values)

1. *y* = −*x*2 + 2*x* − 5 4) *y* = −2*x*2 − 8*x* + 3 5)*y* = 4*x*2 − 2*x* + 1

Vertex: \_\_\_\_\_\_\_\_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_\_

Max or min value:\_\_\_\_\_\_\_\_

range: \_\_\_\_\_\_\_\_

y –intercept:\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_\_

Max or min value:\_\_\_\_\_\_\_\_

range: \_\_\_\_\_\_\_\_

y –intercept:\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_\_\_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_\_

Max or min value:\_\_\_\_\_\_\_\_

range: \_\_\_\_\_\_\_\_

y –intercept:\_\_\_\_\_\_\_

* Graph each function by plotting 3 points. ***(incl. vertex)*** . Label the vertex and axis of symmetry. (DO WITHOUT CALCULATOR)

Vertex: \_\_\_\_\_\_
AOS:\_\_\_\_\_\_\_\_\_

Vertex: \_\_\_\_\_\_
AOS:\_\_\_\_\_\_\_\_\_

 6) y = -x2 – 2x + 2 5) y = 5x2 + x + 8



Sketch each parabola using the given information

6) Vertex is (-2,1) 7) Vertex is (3,-5)

 y-intercept is 4 point (4,1)

8) **.** The height of a batted ball is modeled by the function *h* = −0.01*x*2 + 1.22*x* + 3, **where *x* is the horizontal distance in feet from the point of impact** with the bat, and ***h* is the height of the ball in feet.**

1. At what distance from the point of impact (x) will the ball reach the maximum height?

b**.** What is the maximum height that the ball will reach?

9) A rock club’s profit from booking local bands depends on the ticket price. Using past receipts, the owners find that **the profit p** can be modeled by the function p = -15t2 + 600t + 50, where

 **t represents the ticket price in dollars**.

a. What ticket price yields the maximum profit?

b. What is the maximum profit?