***Pre-Calculus 11***

***Unit 4: Analyzing Quadratic Functions***

***Worksheet 4.6—Analyzing Quadratic Functions of the form***

1. Identify the x-intercepts of the graph of each quadratic function.

a) b) c)

2. Determine the zeros of each quadratic function.

a) b) c)

3. Determine the following characteristics of each quadratic function.

i.) the y-intercept

ii) the x-intercept

iii) the equation of the axis of symmetry

iv) the coordinates of the vertex of the graph

1. b) c)

d) e) f)

4. Graph each quadratic function in #3 above based on the characteristics that you found.

5. The graph of a quadratic function has *x*-intercepts 1 and 5 and passes through

point

1. Write and equation of the function in factored form
2. Write an equation of the function in general form

6. The graph of a quadratic function has *x*-intercepts and 3 and has a y-intercept of 6.

1. Write and equation of the function in factored form
2. Write an equation of the function in general form

7. The graph of a quadratic function has *x*-intercepts 2 and 4 and passes through point

1. Write and equation of the function in factored form
2. Write an equation of the function in general form

8. For each graph of a quadratic function, write the equation in factored form.

1.  b)

 c) d)

9. Given the following quadratic functions, if one x-intercept of the graph is 5, determine

the other *x*-intercept and the value of k.

a) b)

***Solutions***

1. a) b) c)

2. a) b) c)

3. a) i) ii) iii) iv)

b) i) ii) iii) iv)

c) i) ii) iii) iv)

d) i) ii) iii) iv)

e) i) ii) iii) iv)

f) i) ii) iii) iv)

4. a) b) c)

d) e) f)

5. a) b)

6. a) b)

7. a) b)

8. a) b)

c) d)

9. a) b)