Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ period\_\_\_\_\_

Secondary II Unit 2 Chapter Practice Test

1) For each quadratic function, choose 5 x-values, plot the points and sketch the parabola. Make sure your points are graphed accurately. Label the vertex. Note: you may need to experiment with the x- values to get the ones that work the best.

a) f(x) = (x – 3)2 + 1

|  |  |
| --- | --- |
| **x** | **y** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

<-vertex here

b) f(x) = x2 -6x + 9

|  |  |
| --- | --- |
| **x** | **y** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

<- vertex here

c) Sketch the axis of symmetry for each parabola. Give the equation for each axis of symmetry. a) x = \_\_\_\_\_ b) x = \_\_\_\_\_\_

 Write each function in standard form if it is not already. Then identify a, b, and c.

2) y = -4x2 – 5x + 4 a: b: c:

3) y = 7 + x + 8x2 a: b: c:

4) -x2 + 9 = y a: b: c:

Use the distributive property to change each quadratic equation to standard form. Then identify a, b, and c. You must show your work.

5) y = (x + 3)(3x – 1) 6) y = -4x(x + 5)

a: a:

b: b:

c: c:

7) Look at 2.1 problems 11-14. These are area models for quadratic expressions. Using these models to help you, sketch an area model for each of the following:

a) (2x)2 b) (x+ 2)2

8) Find the value that completes the square, then write as a perfect square.

a) x2 + 10x + \_\_\_\_\_ = ( )2

b) x2 – 8x + \_\_\_\_\_ = ( )2

9) Use the table to identify the vertex and the equation for the axis of symmetry. Sketch a picture of the parabola clearly showing the vertex and the axis of symmetry.

 Sketch the Graph below

|  |  |
| --- | --- |
| **x** | **y** |
| -1 | -4 |
| 0 | 1 |
| 1 | 4 |
| 2 | 5 |
| 3 | 4 |
| 4 | 1 |

Vertex: \_\_\_\_\_\_\_ Axis of Symmetry x = \_\_\_\_\_

10) Use the table to identify the vertex and the equation for the axis of symmetry. Sketch a picture of the parabola clearly showing the vertex and the axis of symmetry.

 Sketch the Graph below

|  |  |
| --- | --- |
| **x** | **y** |
| -7 | 2 |
| -5 | -4 |
| -3 | -6 |
| -1 | -4 |
| 1 | 2 |

 Vertex: \_\_\_\_\_\_\_ Axis of Symmetry x = \_\_\_\_\_