**Zeroes of Quadratic Functions**

Name:

Solving Quadratics Functions Day 2

Students can:

* Identify zeroes of a factored, quadratic polynomial.
* Use the given zeroes to **sketch** a graph of a quadratic function.

**WARM-UP:**

Solve for the roots of the quadratic functions and sketch the graph.

1. x2 + 9x + 20 2. 9x2 – 12x + 4

 

**MINI LESSON:**

**Solve for the x-intercepts for the following quadratic functions. Then sketch the graph.**

3. $x^{2}-16=y$ 4. $f\left(x\right)=x^{2}-6x$

 

5. $y=x^{2}+6x+9$ 6. $f\left(x\right)=2x^{2}+20x+50$

 

7. How many solutions does each quadratic function have in #3 and #4? \_\_\_\_\_\_\_\_\_\_\_

 How about in #5 and #6? \_\_\_\_\_\_\_\_\_\_\_

8. Sketch a quadratic function that has exactly two solutions.

 

9. Sketch a quadratic function that has exactly one solution.

 

10. Sketch a quadratic function that has exactly no solutions.

 

We can determine the number of solutions a quadratic function has by finding the **discriminant**. We will practice this next week!

11. T or F? If a quadratic is factorable then it has one or two zeroes.

12. If a quadratic function has exactly one solution, then the solution is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the parabola.

**WORKSHOP:**

**Solve for the x-intercepts for the following quadratic functions. Then sketch the graph.**

13. $f\left(n\right)=2n^{2}-n-1$ 14. $y=x^{2}+3x+1$

 

15. $f\left(k\right)=10k^{2}-35k+ 30$ 16. $y=4x^{2}-4x-11$

 