**MVP Math 2 Unit 4 Test Review Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Note: If needed, you can round your x-intercepts to the nearest hundredth.**

**Write in vertex form.**

1. $y=x^{2}-6x+5$ 2. $y=x^{2}+16x+71$ 3. $y=-x^{2}-14x-59$

4. $y=2x^{2}-4x+5$ 5. $y=7x^{2}-14x-21$ 6. $y=-\frac{1}{2}x^{2}-4x-9$

**For each of the following, identify the transformations and characteristics of the equations and then graph.**

7. $y=-2(x-1)^{2}-1$ 8. $y=-(x-4)^{2}+2$

Transformations: Transformations:

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

Min or Max?\_\_\_\_\_\_\_\_ Min or Max?\_\_\_\_\_\_\_

Aos: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Aos: \_\_\_\_\_\_\_\_\_\_\_\_\_

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

x-intercepts\_\_\_\_\_\_\_\_\_\_ x-intercepts\_\_\_\_\_\_\_\_\_\_



9.$y=3(x+2)^{2}+1$ 10. $y=2(x+3)^{2}-8$

Transformations: Transformations:

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

Min or Max?\_\_\_\_\_\_\_\_ Min or Max?\_\_\_\_\_\_\_

Aos: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Aos: \_\_\_\_\_\_\_\_\_\_\_\_\_

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

x-intercepts\_\_\_\_\_\_\_\_\_\_ x-intercepts\_\_\_\_\_\_\_\_\_\_



11. Optima has an order for 3 quilt squares, with the dimension of each square increased by 4 inches. Draw a representation for the area, and then write two equivalent expressions to represent the scenario.

**Factor the following:**

12. $x^{2}-22x + 72$ 13. $4x^{2}-49$ 14. $3x^{2}-13x -10$

**Based on the description of transformations from the parent function, write an equation representing the transformations in vertex form. All are representing QUADRATIC FUNCTIONS!**

15. A vertical stretch of 8, shift right 4, up 7.

16. Reflection over the x-axis, vertical compression (or “shrink”) by ⅕, shift left 6, down 9.

17. Vertical compression (“or shrink”) of 1/9, shift left 7, up 12.



**Given the following graph, complete the following:**

18. Standard Form Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Vertex Form Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

 X-intercepts: \_\_\_\_\_\_\_\_\_\_\_

 Y-intercept: \_\_\_\_\_\_\_\_\_

 Minimum or Maximum? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Given the following table, complete the following:**



19. Standard Form Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Vertex Form Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

 X-intercepts: \_\_\_\_\_\_\_\_\_\_\_

 Y-intercept: \_\_\_\_\_\_\_\_\_

 Minimum or Maximum? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| x | y |
| 1 | .2 |
| 2 | 1.2 |
| 3 | 1.8 |
| 4 | 2 |
| 5 | 1.8 |
| 6 | 1.2 |
| 7 | .2 |