**Review:** Vertex & Factored form Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.



2.

3. **Write a quadratic function in FACTORED FORM given the following**

a. $Zeros are -2 and 5 opens up$
$f\left(x\right)=$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. $Zeros are 3 and 4 opens down$
$f\left(x\right)=$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. $Zeros are 0 and 2 opens up$
$f\left(x\right)=$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. **Given:** $f\left(x\right)=-2(x-3)(x+5)$

 What is the A-value? \_\_\_\_\_\_\_\_\_ What does it tell you about the graph? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where are the zeros? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ What is the A.O.S.? \_\_\_\_\_\_\_\_\_\_

Show how you would find the A.O.S. Algebraically using the zeros:

Where is the Vertex? \_\_\_\_\_\_\_\_ What is the y-intercept? $f\left(0\right)=$\_\_\_\_\_\_\_\_\_\_\_\_\_



6. **Given the following Quadratic function** $f\left(x\right)= -\frac{1}{2}\left(x-4\right)\left(x+6\right)$ **explain how you could find
 the Zeros without using Desmos or a calculator:**

7. **Which Quadratic function has a zero at** $x=4?$

a. $f\left(x\right)= -\left(x+1\right)\left(x+3\right)$ b. $f\left(x\right)= 3\left(x-4\right)\left(x+5\right)$ c. $ f\left(x\right)= 4\left(x-2\right)\left(x+3\right)$

8. **Which Quadratic function has an axis of symmetry** $x=0$**?**

a. $f\left(x\right)= -\left(x+3\right)\left(x-3\right)$ b. $f\left(x\right)= 3\left(x-1\right)\left(x+4\right)$ c. $ f\left(x\right)= \left(x+1\right)\left(x+2\right)$

9. **Which Quadratic function equation gives the y- intercept?**

a. $y=2(x-3)^{2}+4$ b. $y=2x^{2}-5x+1$

10. **Which Quadratic function equation gives the vertex?**

a. $y=-3\left(x-2\right)^{2}-5$ b. $y=x^{2}-2x-3$

11. **Which Quadratic function equation gives information on whether the parabola opens up or
 down?**

a. $y=-\frac{1}{2}(x-3)^{2}+4$ b. $y=2x^{2}-5x+1$

12. **Which of the following has a y-intercept equal to 3**

a. $y=x^{2}+0x+3$ b. $y=(x-0)^{2}+3$

13. Write the equation of a Quadratic Function with a vertex at $(-3,5)$ and opens upward

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