Practice: Understanding Factored Form – Day 2   Name: _____

1. Given: $f(x) = (x-2)(x+4)$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

2. Given: $f(x) = -3(x-6)(x-2)$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

Try These:

3. Given: $f(x) = -16(x+1)(x-5)$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

4. Given: $f(x) = (x+7)(x+4$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

5. Given: $f(x) = 2(x-2)(x+4)$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

6. Given: $f(x) = (x-6)(x-2)$

What is the a value? _____

Which tells us what? _____

What are the zeros? _____

Find the AOS using the zeros: _____

Find the Vertex: _____

Factored Form: $a(x - r_1)(x - r_2)$

Sketch the following with Desmos separately.

Determine the "a" value for each and determine what the r values represent?

$f(x) = x^2 = x \cdot x$ $\qquad\qquad$ $g(x) = x(x - 2)$ $\qquad\qquad$ $h(x) = (x + 4)x$ $\qquad\qquad$ $y = (x + 4)(x - 2)$

Sketch the following with Desmos separately.

Determine the "a" value for each and determine what the r values represent?

$f(x) = -x^2$ $\qquad\qquad$ $g(x) = -x(x - 3)$ $\qquad\qquad$ $h(x) = -(x + 7)x$ $\qquad\qquad$ $y = -(x + 7)(x - 3)$

Sketch the following without Desmos. Determine the "a" value and r values.

$f(x) = x(x - 2)$ $\qquad\qquad$ $g(x) = -2(x + 5)(x + 3)$ $\qquad\qquad$ $h(x) = -\frac{1}{3}(x + 1)(x - 2)$

$k(x) = 2(x + 4)(x - 2)$ $\qquad\qquad\qquad\qquad$ $j(x) = -16x(x - 12)$

What do you need to be careful of when finding the zeros or roots of quadratic function when written in factored form?

If the factor is $(x - 3)$, what is the zero or root of the function? _____