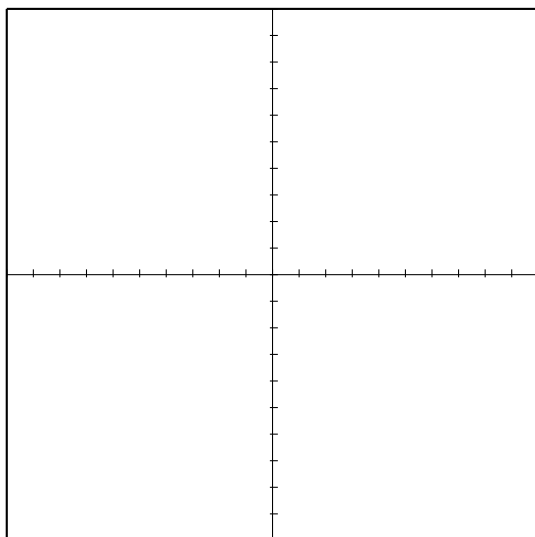


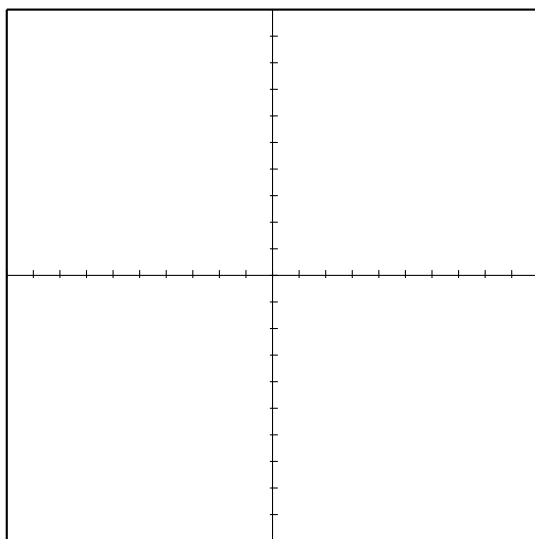
**Graphing Review**  
**Algebra 2** February 23, 2020

Consider the polynomial function  $f(x) = (x + 3)^2(x - 1)(x - 4)$ . Find the information indicated below. Graph the function and label these points.



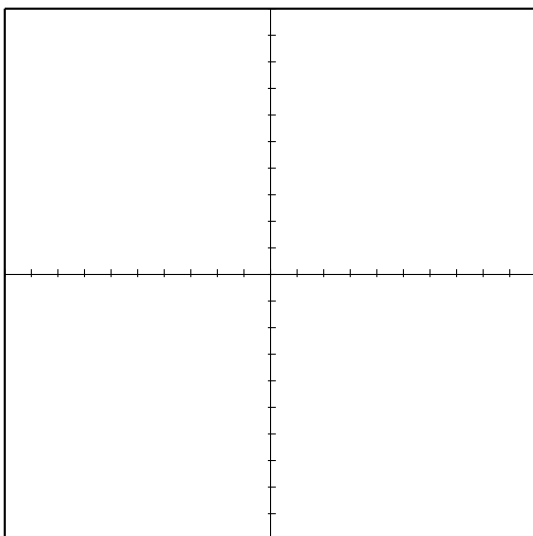
- Polynomial:**  $f(x) = (x + 3)^2(x - 1)(x - 4)$
- Degree:**
- Leading Coefficient:**
- Constant Coefficient:**
- Zeros with Multiplicities:**
- y*-intercept:**
- x*-intercepts:**
- End Behavior:**

Find the zeros, intercepts, domain, range, axis of symmetry and vertex of  $f(x) = x^2 - 4x + 7$ , then graph the function and label these points and the axis of symmetry.



- Quadratic Function:**  $f(x) = x^2 - 4x + 7$
- Axis of Symmetry:**
- Domain:**
- Range**
- y*-intercept:**
- x*-intercept(s):**
  
- Vertex:**

Find the zeros, intercepts, domain, range, axis of symmetry and vertex of  $f(x) = -3(x + 1)^2 + 6$ , then graph the function and label these points and the axis of symmetry.



**Quadratic Function:**  $f(x) = -3(x + 1)^2 + 6$

**Axis of Symmetry:**

**Domain:**

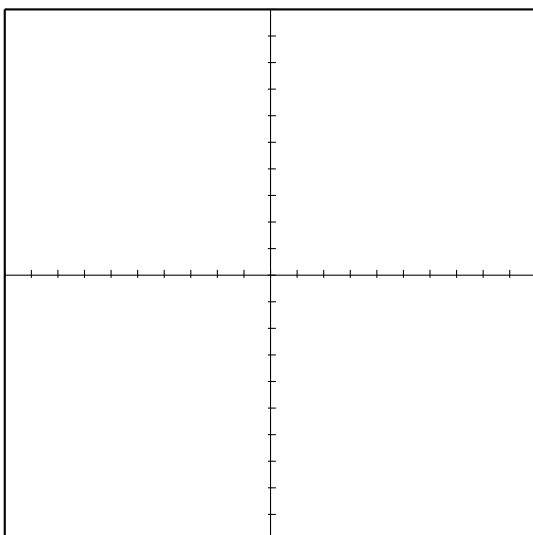
**Range**

***y*-intercept:**

***x*-intercept(s):**

**Vertex:**

Consider the polynomial function  $f(x) = (x - 3)(1 - x)^2$ . Find the information indicated below. Graph the function and label these points.



**Polynomial:**  $f(x) = (x - 3)(1 - x)^2$

**Degree:**

**Leading Coefficient:**

**Constant Coefficient:**

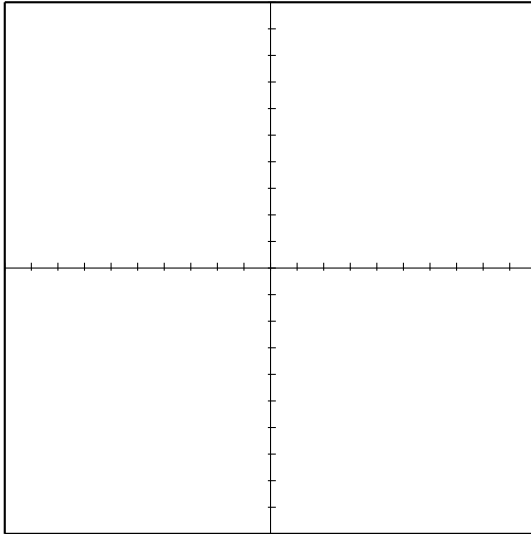
**Zeros with Multiplicities:**

***y*-intercept:**

***x*-intercepts:**

**End Behavior:**

Consider the rational function  $f(x) = \frac{x+2}{(x-3)(x+4)^2}$ . Graph the function and label the intercepts and asymptotes features.



**Rational Function:**  $f(x) = \frac{x+2}{(x-3)(x+4)^2}$

**End Behavior/Horizontal Asymptote:**

**Zeros:**

**Holes:**

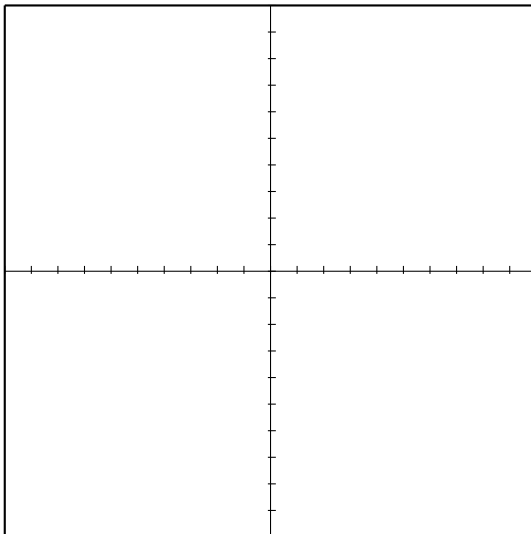
**y-intercept:**

**x-intercepts:**

**Vertical Asymptotes:**

**Sign Chart:**

Consider the rational function  $f(x) = \frac{x^2-4}{(x-2)(x-4)(x+3)^2}$ . Graph the function and label the intercepts and asymptotes features.



**Rational Function:**  $f(x) = \frac{x^2-4}{(x-2)(x-4)(x+3)^2}$

**End Behavior/Horizontal Asymptote:**

**Zeros:**

**Holes:**

**y-intercept:**

**x-intercepts:**

**Vertical Asymptotes:**

**Sign Chart:**