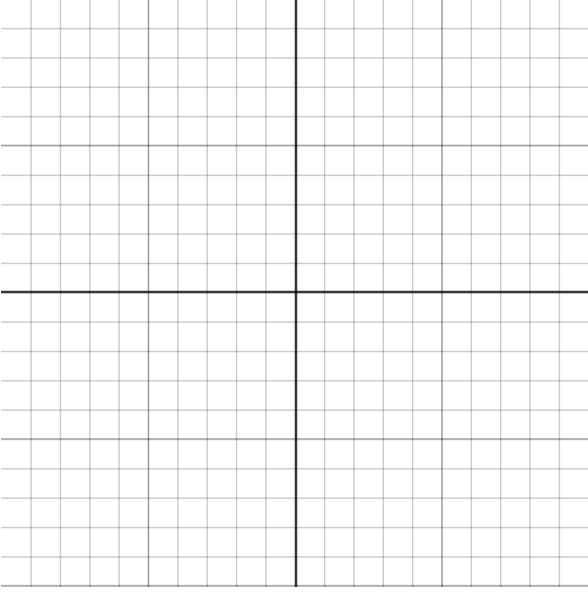**Name:**

<u>Section 3.2 – Graphing Polynomials</u>

1. Use of the tools we have discussed in previous sections as well as this to graph a rough sketch of the given polynomials. All intercepts should be exact, peaks and valleys inferred but not exact if necessary. Create your own grid scale to suit your needs.

$$f(x) = (x-3)(x+2)^2(x-1)^3$$

$$f(x) = x(x-2)(x+3)^2$$

$$f(x) = \frac{1}{16}(x - 4)^2(x + 5)$$

2. Write the equation of the Polynomial in factored form with the following criteria

Roots at: $-1, -1, 0, 2$	Roots at: $2, 2, -5, 7$
Goes through point: $(1,5)$	$y - int$: $(0, 4)$