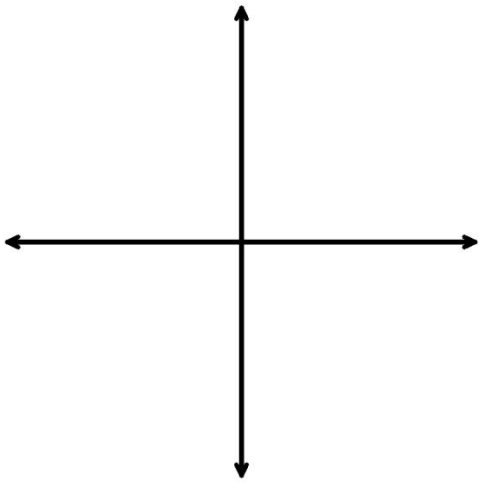
Name: _____ Date: _____

Analyze the following polynomial functions:

1. $f(x) = x^3 - 13x^2 + 23x - 11$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____

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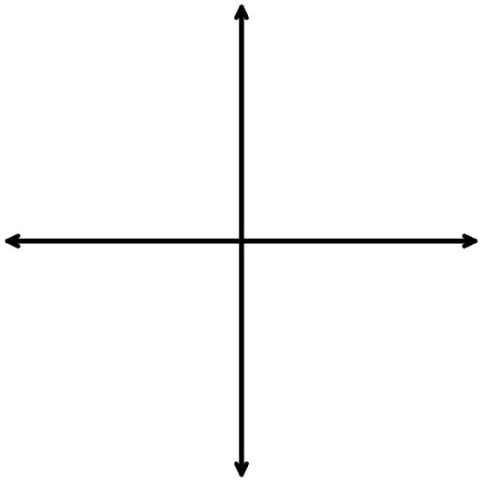
2. $f(x) = x^4 + 3x^3 - 13x^2 - 15x$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____

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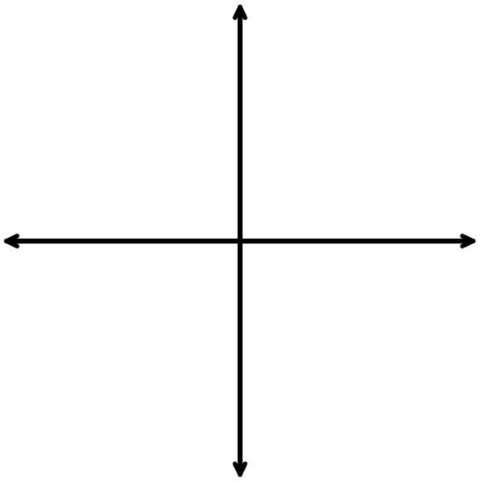
3. $f(x) = (x+1)^2(x-2)$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

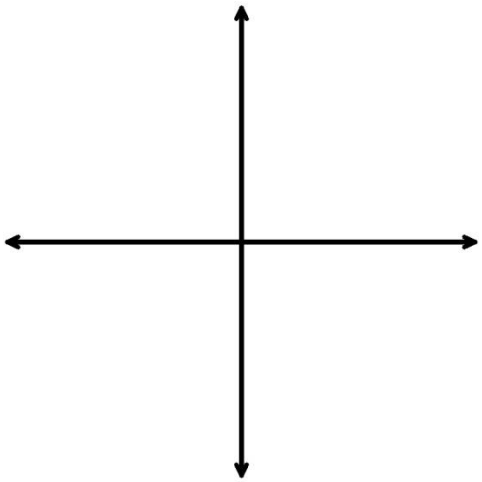
Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____

4. $f(x) = x^3 - 6x^2 - 9x + 54$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____

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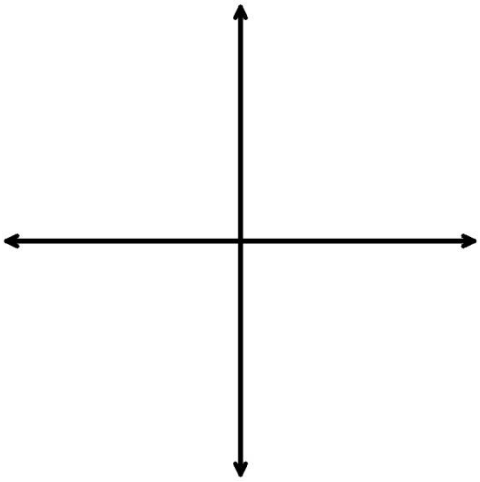
5. $f(x) = (x+3)(x-3)^2(x-1)$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____

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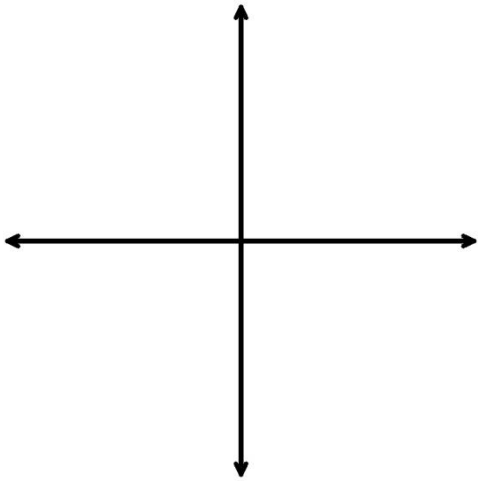
6. $f(x) = -x^5 + 3x^2 + 7$



Domain:_____ Range:_____

Zeros:_____ Y-int:_____

Rel. Max:_____ Rel. Min:_____

Abs. Max: _____ Abs. Min: _____

Inc:_____ Dec:_____

$x \to -\infty, f(x) \to$ _____

$x \to \infty, f(x) \to$ _____