

Graphing Polynomial Functions — Part A: End Behavior

State the end behavior of each function: the direction of the left and right ends.

Name: _____

Date: _____

Period: _____

Use the degree (even or odd) and the sign of the leading coefficient. For factored forms, multiply only the leading factors to find the leading term.

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

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____

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

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____

3. $f(x) = -4x^5 + x^2$

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____

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

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____

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

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____

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

Left end ($x \rightarrow -\infty$): _____ Right end ($x \rightarrow +\infty$): _____