

**Simplify if possible and put each polynomial in standard form.**

**Then classify it by degree and by the number of terms.**

$$12x^4 + 5x^3$$

$$6x^2 + x^5 - 3x^3$$

$$6x - 10x + 7$$

$$(10x^2 - 15x) + (6x^2 + 2x + 1)$$

$$5x(3x^2 + 2)$$

$$(-2x^2 + 7x + 2) - (6x^2 + 10x - 9)$$

**Determine by inspection the end behavior of the graph of each function.**

$$y = x^4 - 10x^3 - 21x = 0 \quad \begin{array}{l} \text{as } x \rightarrow -\infty, f(x) \rightarrow \\ \text{as } x \rightarrow +\infty, f(x) \rightarrow \end{array}$$

$$y = -2x^3 + 3x - 6 = 0 \quad \begin{array}{l} \text{as } x \rightarrow -\infty, f(x) \rightarrow \\ \text{as } x \rightarrow +\infty, f(x) \rightarrow \end{array}$$