

Kerry Ojakian's MTH 30 Class
Class Assignment #10

1. For each expression, is it a polynomial? (Yes or No)

(a) $x^2 - 5x + 6$

(b) $\sqrt{x} + 2x + 6$

2. For each expression, is it a polynomial? (Yes or No)

(a) $\left(\frac{3}{5}\right)x - 2 + 3x - 1$

(b) $\frac{3+x}{2+x} + 3x - 5$

3. Circle the terms in each expression, and find the coefficient of each term.

(a) $x + 2y - 1$

(b) x^3

4. Find the leading term and leading coefficient in each polynomial.

(a) $-5x^6 + 4x - 30x^3$

(b) $5 - x^7 + 3x - 6x^3$

5. Determine the end behavior of the functions.

(a) $g(x) = 3x^5$

(b) $f(x) = -7x^5$

6. Determine the end behavior of the functions.

(a) $g(x) = 9x^4$

(b) $f(x) = -5x^6$

7. Determine $\lim_{x \rightarrow \infty} f(x)$ for each function.

(a) $f(x) = 9x^4$

(b) $f(x) = 15x^3$

8. Determine $\lim_{x \rightarrow -\infty} g(x)$ for each function.

(a) $g(x) = 3x^5$

(b) $g(x) = 4x^6$

9. Determine the end behavior of the function $g(x) = 3x^5 + 7x^2 - x + 12$.

10. Determine the end behavior of the function $f(x) = 3x^3 + 7x^4 - 17x$.

11. Determine the end behavior of the function $h(x) = 3x^7 + 7x^3 - 10x^7$.
