

Polynomial End Behavior Worksheet

For each polynomial function:

- A) What is the degree?
- B) Classify the degree as even or odd.
- C) What is the leading coefficient?
- D) Classify the leading coefficient as positive or negative.
- E) Describe the end behavior in words.
- F) Describe the end behavior using symbols.
- G) Use the graphing calculator to sketch the general shape of the graph.

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

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

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

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

5) $f(x) = -2x^2 + 16x - 26$

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

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

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

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

10) $f(x) = -x^2 + 5$

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

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

13) $f(x) = -x^2 + 8x - 18$

14) $f(x) = -2x^2 + 16x - 29$

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

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

17) $f(x) = x^5 - 3x^3 + 3$

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

19) $f(x) = -x^5 + 3x^3 + 3$

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