

Algebra 2 7.6 End Behavior Investigation - Answers

Complete the table. Make a guess about the end behavior before you graph on your calculator.

| Polynomial | Degree | Leading Coefficient | End Behavior Sketch |
|---|--------|---------------------|---------------------|
| $0.5x^3 + 1.5x^2 - 3x - 4$ | 3 | 0.5 | down-up |
| $-\frac{1}{4}x^6 + 2$ | 6 | $-\frac{1}{4}$ | down-down |
| $-3x^7 + 3x^5 + 3x^2$ | 7 | -3 | up-down |
| $2x^4 - 6x$ | 4 | 2 | up-up |
| $-\frac{1}{3}x^3 - 4x^2 - 13x - \frac{28}{3}$ | 3 | $-\frac{1}{3}$ | up-down |
| $(x+4)^2(x+1)$ | 3 | 1 | down-up |
| $-0.001(x-4)^3(x+1)^6$ | 9 | -0.001 | up-down |
| $x^6 - x^5 - 1.5x^4$ | 6 | 1 | up-up |
| $-2(x+1)^2 + 5$ | 2 | -2 | down-down |
| $(x-4)^3(1.5-x)$ | 4 | -1 | down-down |
| $2x^5$ | 5 | 2 | down-up |

Summarize the relationship between degree, leading coefficient, and end behavior.

