Lesson 4.1 Practice: Polynomial Functions and End Behavior

School Launch · Algebra II · Unit 4: Polynomial Functions · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Describe the end behavior of $f(x) = -x^3 - x^2 + 3x - 5$ (as $x \to -\infty$ and $x \to \infty$). EASY

2. Describe the end behavior of $f(x) = -2x^7 - 4x^6 + 3x^5 + 4x^4 - x^3 - 4x^2 - 5x + 1$ (as $x \to -\infty$ and $x \to \infty$). EASY

3. Describe the end behavior of $f(x) = x^7 + 2x^6 + 5x^5 + 2x^4 - 3x^3 - x^2 + 2x + 2$ (as $x \to -\infty$ and $x \to \infty$). EASY

4. Describe the end behavior of $f(x) = -2x^2 + 2x + 1$ (as $x \to -\infty$ and $x \to \infty$). MEDIUM

5. Describe the end behavior of $f(x) = -5x^4 + 3x^3 - 5x^2 + 5x + 1$ (as $x \to -\infty$ and $x \to \infty$). MEDIUM

6. Describe the end behavior of $f(x) = -5x^7 - 5x^6 - 2x^5 - 3x^4 + 3x^3 + 4x^2 - x - 5$ (as $x \to -\infty$ and $x \to \infty$). MEDIUM

7. Describe the end behavior of $f(x) = 2x^5 + 5x^4 - x^3 - 4x^2 - 2x - 5$ (as $x \to -\infty$ and $x \to \infty$). MEDIUM

8. Describe the end behavior of $f(x) = -4x^6 + 3x^5 + 2x^4 + 2x^3 + 3x^2 - x - 5$ (as $x \to -\infty$ and $x \to \infty$). HARD

9. Describe the end behavior of $f(x) = -x^4 - 4x^3 - x^2 - 3x + 4$ (as $x \to -\infty$ and $x \to \infty$). HARD

10. Describe the end behavior of $f(x) = 4x^7 + 4x^6 - 4x^5 + x^4 + 2x^3 + 4x^2 - x + 2$ (as $x \to -\infty$ and $x \to \infty$). HARD