Worksheet #1 Lesson 3.7

Name _____

Block _____ Date _____

Identify the leading coefficient, degree, and end behavior of each function.

1. $f(x) = x^2 - 2$

   Leading coefficient:

   Degree:

   End behavior:

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

   Leading coefficient:

   Degree:

   End behavior:
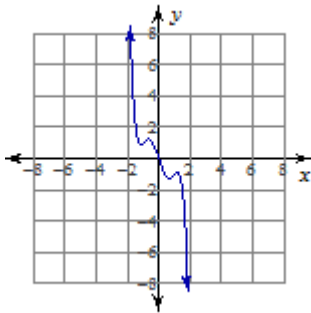
3. $f(x) = -x^4 + 3x^2 + x + 2$

   Leading coefficient:

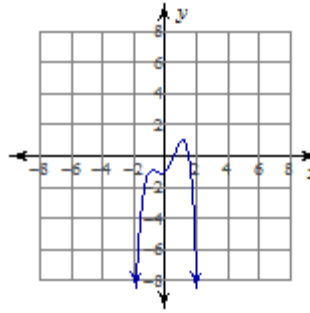   Degree:

   End behavior:

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

   Leading coefficient:

   Degree:

   End behavior:

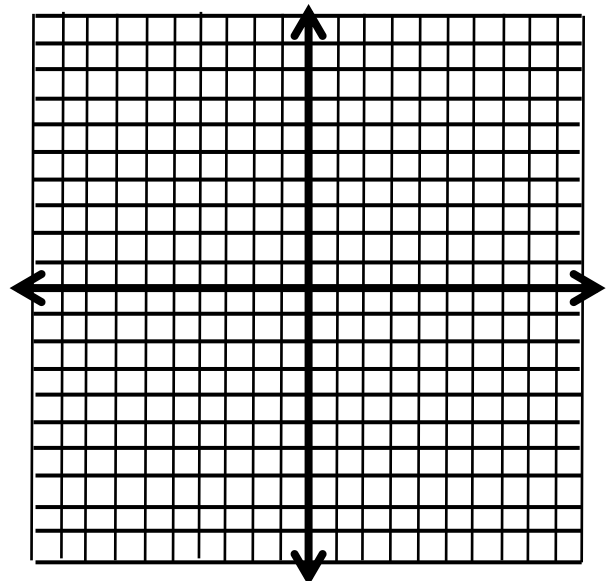**Identify whether the function graphed as an odd or even degree and a positive or negative leading coefficient.**

5.

6.

Factor each polynomial, then graph the function.

7. $x^3 - x^2 - 12x = 0$

Polynomial End Behavior

	Odd Degree	Even Degree
Leading Coefficient $a > 0$ (Positive)	As x → +∞, P(x) → +∞; As x → −∞, P(x) → −∞	As x → −∞, P(x) → +∞; As x → +∞, P(x) → +∞
Leading Coefficient $a < 0$ (Negative)	As x → −∞, P(x) → +∞; As x → +∞, P(x) → −∞	As x → −∞, P(x) → −∞; As x → +∞, P(x) → −∞