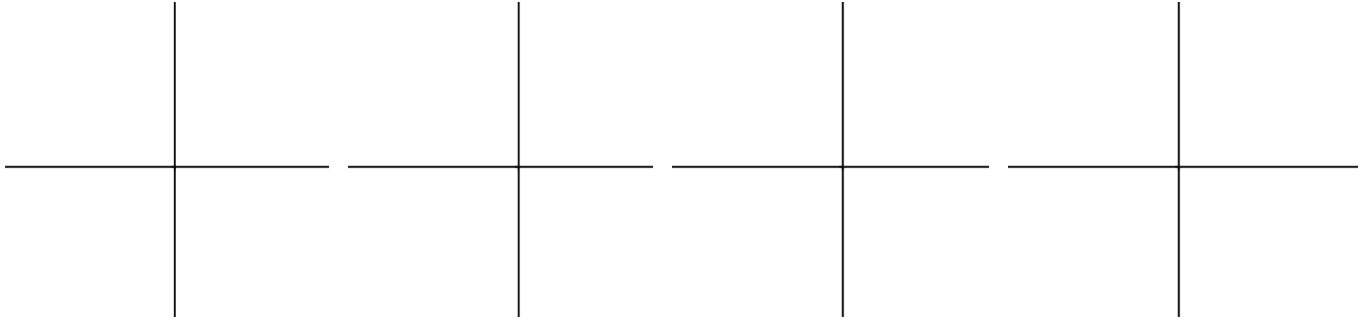1. Given the degree and leading coefficient of a polynomial function, sketch its end-behavior:

     a) Degree = 4   **b)** Degree = 3   **c)** Degree = 5   **d)** Degree = 6

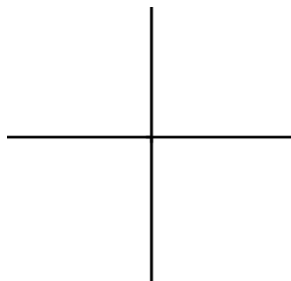   Ld. Coef = 3   Ld. Coef = -2   Ld. Coef = 2   Ld. Coef = -2

2. For each of the following functions, state the degree, the leading coefficient, and the y-intercept. Then draw a sketch showing ONLY the end-behavior. Make sure to put the polynomial in standard form first!
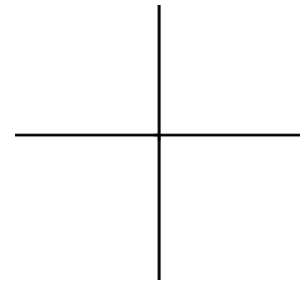
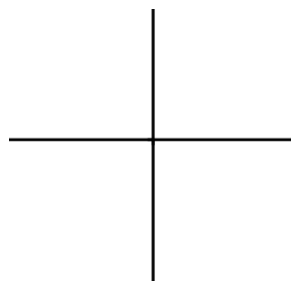**a)** $y = -x^2 + 7x - 2$

Degree:

Ld.Coef:

y-intercept:

b) $y = x^3 - 3x^2 + 5$

Degree:

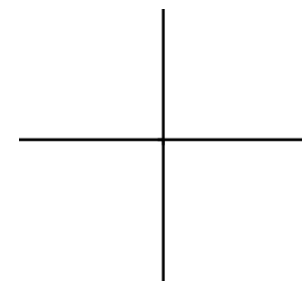Ld.Coef:

y-intercept:

c) $y = x^2 + 8$

Degree:

Ld.Coef:
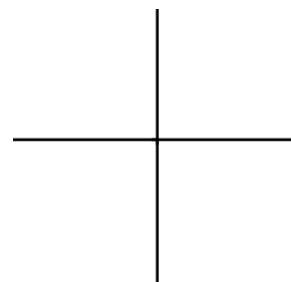
y-intercept:

d) $y = -2x^4 + 3x^2 - 7 - 4x$

Degree:
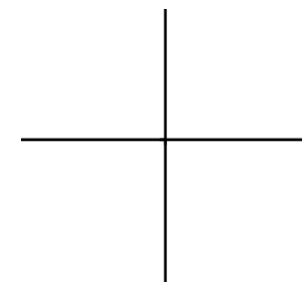
Ld.Coef:

y-intercept:

e) $y = -x^5 - x + 2x^3 + 4$

Degree:

Ld.Coef:

y-intercept:

f) $y = x^3 + 5x^4 - 2x + 1$
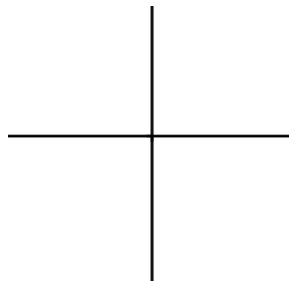
Degree:

Ld.Coef:

y-intercept:

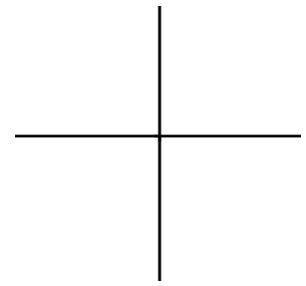**g)** $y = 7x - 3x^3 + 2x^2 + 11$

Degree:

Ld.Coef:
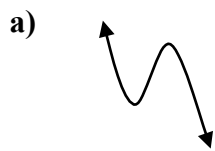
y-intercept:

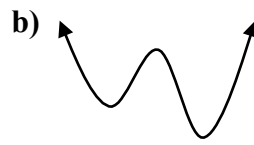**h)** $y = 2x^3 + 4x^5 - 8x + 2x^4$

Degree:

Ld.Coef:

y-intercept:

3. For each of the following polynomial graphs, circle whether the polynomial is of even or odd degree, whether its leading coefficient is positive or negative, and state a possible parent function.
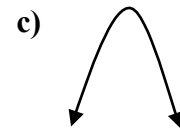
a)

Degree: even   odd

Ld. Coef: +   -
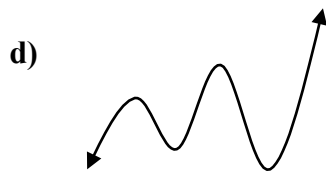
Parent $f(x) =$

b)

Degree: even odd

Ld. Coef: +   -

Parent $f(x) =$

c)

Degree: even odd

Ld. Coef: +   -

Parent $f(x) =$

d)

Degree: even   odd

Ld. Coef: +   -
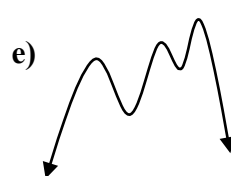
Parent $f(x) =$

e)

Degree: even odd

Ld. Coef: +   -

Parent $f(x) =$

f)

Degree: even odd

Ld. Coef: +   -

Parent $f(x) =$