

Coop: 1.2 10/20/09 Partners: Bell:
 (Label this way from now on. Coop #.Qtr, Date,
 Bell, Partners)

1. The current I in an electrical circuit is inversely proportional to the resistance R , with constant of variation V .

2. $f(x) = \frac{1}{2} \sqrt[4]{x}$

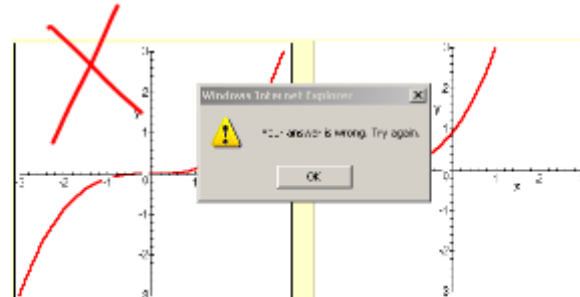
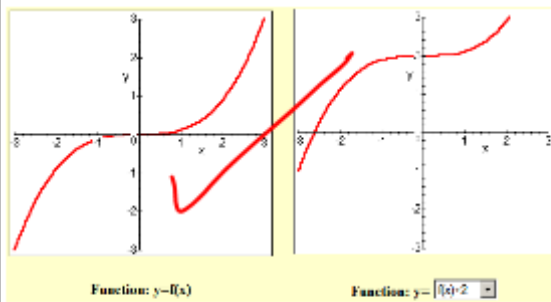
- Write as a power function
- State the Coefficient and power.
- Graph.
- State the domain and range
- Discuss the end behavior

**Table 2.13 Light Intensity Data
 for a 100-W Light Bulb**

Distance (m)	Intensity (W/m ²)
1.0	7.95
1.5	3.53
2.0	2.01
2.5	1.27
3.0	0.90

3. a) Use your calculator to perform an appropriate regression on the data and write an equation for Distance in terms of Intensity. b) Use your equation to find the intensity at as distance of 3.4m.

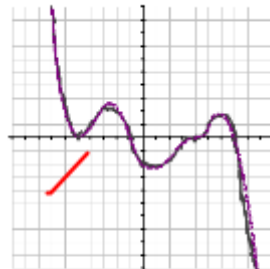
1. Go to: <http://archives.math.utk.edu/visual.calculus/0/shifting.7/index.html>
 (Try these for Review practice. **Do not spend more than 5 minutes here.** Way Cool!)



2. Go to: <http://www.purplemath.com/modules/polyends5.htm> (Read this explanation. Record some notes)

Without plotting any points other than intercepts, draw a graph of the following polynomial:

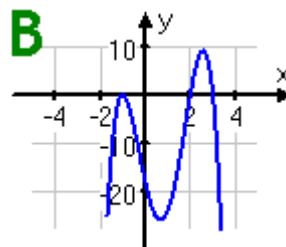
$y = -\left(\frac{1}{5600}\right)(x+5)^2(x+1)(x-4)^3(x-7)$



- $x = -5$, with multiplicity 2 (so the graph will be just touching the x -axis here)
- $x = -1$, with multiplicity 1 (so the graph will be crossing the axis here)
- $x = 4$, with multiplicity 3 (so the graph will be crossing the axis here, but also flexing)
- $x = 7$, with multiplicity 1 (so the graph will be just crossing the axis here)

3. Go to: <http://www.purplemath.com/modules/polyends.htm> (Read this in depth discussion of polynomial graphs. Every time you are asked a question in green writing in the reading write it down. Try to answer it. Then correct your work in pen with the answer given.)

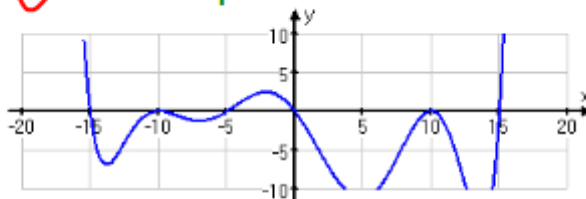
- Which of the following could be the graph of a polynomial whose leading term is " $-3x^4$ "?



- Describe the end behavior of $f(x) = 3x^7 + 5x + 1004$

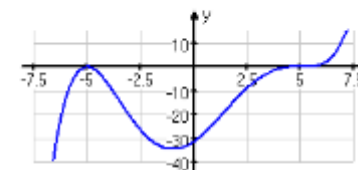
$x \rightarrow \infty \quad y \rightarrow \infty$
 $x \rightarrow -\infty \quad y \rightarrow -\infty$

The following graph shows an eighth-degree polynomial. List the polynomial's zeroes with their multiplicities.



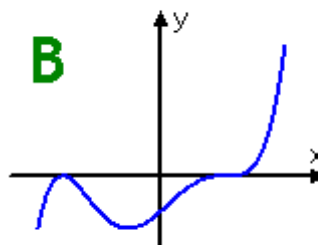
- $x = -15$ with multiplicity 1,
- $x = -10$ with multiplicity 2,
- $x = -5$ with multiplicity 1,
- $x = 0$ with multiplicity 1,
- $x = 10$ with multiplicity 2, and
- $x = 15$ with multiplicity 1

- What is the multiplicity of $x = 5$, given that the graph shows a fifth-degree polynomial with all real-number roots, and the root $x = -5$ has a multiplicity of 2?



$x = 5$ must be of multiplicity 3.

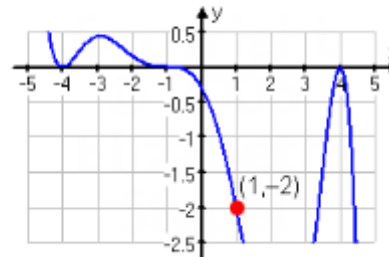
- Which of the following graphs could represent the polynomial $f(x) = a(x - b)^2(x - c)^3$?



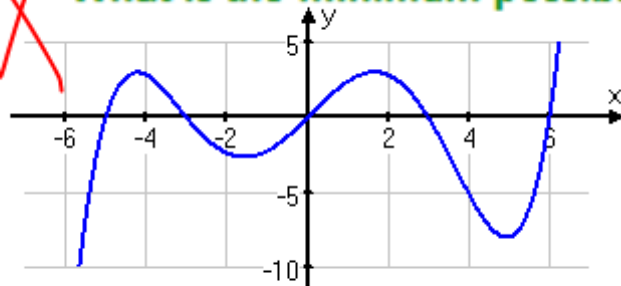
- Find the degree-7 polynomial corresponding to the following graph, given that one of the zeroes has multiplicity 3.

$$y = \left(-\frac{1}{900}\right)(x + 4)^2(x + 1)^3(x - 4)^2$$

We have not covered this objective yet

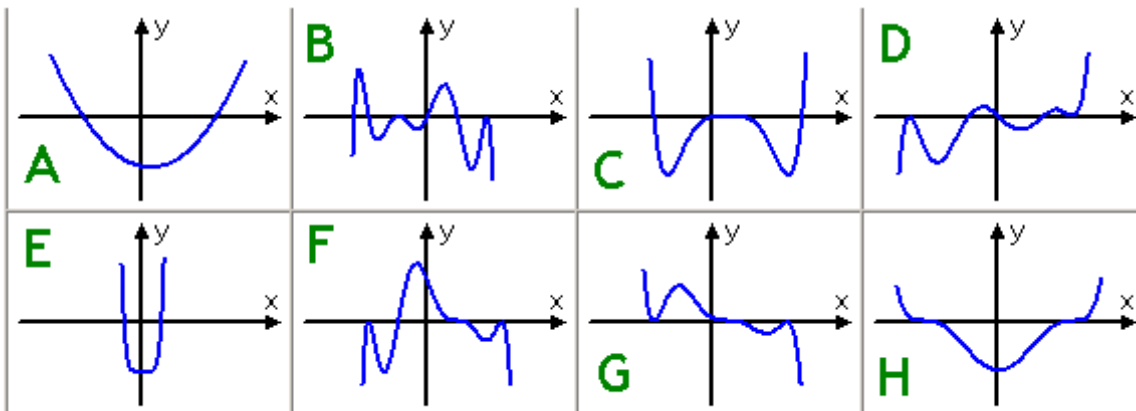


- What is the minimum possible degree of the polynomial graphed below?



The minimum possible degree is 5.

- Given that a polynomial is of degree six, which of the following could be its graph?



Graphs B, D, F, and G can't possibly be graphs of degree-six polynomials. Graphs A and E *might* be degree-six, and Graphs C and H *probably* are.

4. **Go to:** <http://tutorial.math.lamar.edu/Classes/Alg/ZeroesOfPolynomials.aspx>
(Read the explanation here for finding the zeros of a polynomial.)

To find the zeros of a polynomial, factor it and set each factor equal to zero.

5. **Go to:**
http://education.yahoo.com/homework_help/math_help/problem_list?id=minialg2gt_6_1
(Do problems # 1, 4, 5, 6, 11, 12, 13, 18, 19, 23, & 24)

Bonus since site was down