Polynomials Part 1 Study guide.

I can classify polynomials by degree.

Describe each polynomial by degree.

1. $3x^5 - 4x^3 + 1$
2. $-4x^4 + 3x^3 - 2x^2 - 1$
3. $5x + 2x^2$

I can classify polynomials by the number of terms.

Describe each polynomial by number of terms.

4. $4x^3$
5. $5x^5 - 2x^4 + 3x^2 - 2x$
6. $x^2 - 3x + 2$

I can write polynomials in standard form

7. Write in standard form: $3x^2 + 2x^3 - 2x - 2x(2x^3 - 3x^2 + 4x + 1)$

I can write polynomials in standard form from its given zeroes.

8. Write a polynomial equation, in standard form with zeros: $x = 2$ multiplicity 2, -4

I can solve polynomials, find maximum and minimum values, and then sketch a graph.

9. Solve: $y = 2x^4(x+4)^3(3x+1)^2$

10. Solve without graphing: $3x^4 + 6x^3 - 9x^2 = 0$ Then sketch a graph.

11. Solve and find any maximums or minimums for $y = x^3 + 2x^2 - 5x - 6$.

I can use polynomials to model real life data and applications.

12. A company creates packages by cutting equal squares from each corner of a 24" x 18"cardboard. Write an equation for the volume of the box in standard Form.
13. The table below shows the percent of U.S. houses with cable TV.

Television Cable Access

Year	1960	1970	1980	1990	2000
% of Households	0	7	20	56	68

a) Write a quartic model for the data.

b) Use the quartic model to predict the percent of households with cable access in 2013. Is this a good model for this year? Explain.

c) Which year would the percent of households with cable access be 75%?

14. The length of a portable dog kennel is 7 inches longer than the width. The height is one inch shorter than the width. Write an equation for the volume of the kennel in standard form.