This is your review guide for the Algebra II Chapter 6 Quiz. These problems are from your notes, so look up the answers in your notes (or my notes at mrsspisak.weebly.com, S2 Algebra I page) to make sure you did the review problems correctly. Keep practicing until you can get all the answers correct in less than an hour☺

Find a cubic model for the following table (using your graphing calculator)

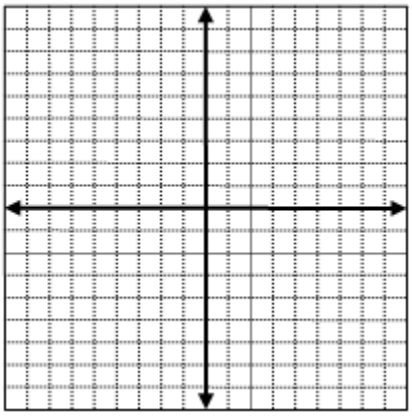
x	0	5	10	15	20
y	10.1	2.8	8.1	16	17.8

Write the following function in standard form: $y = (x + 1)(x + 1)(x + 2)$

Write the following function in factored form: $y = 6x^3 - 15x^2 - 36x$

Find the zeros and y-intercept of the function and then graph:

$y = (x - 1)(x + 1)(x + 3)$



Write a polynomial in standard form with zeros at -2, 3 and 3.

For each function, find the zeros and state their multiplicity.

$y = (x - 2)(x + 1)(x - 1)^2$ $\qquad$ $y = x^3 - 4x^2 + 4x$

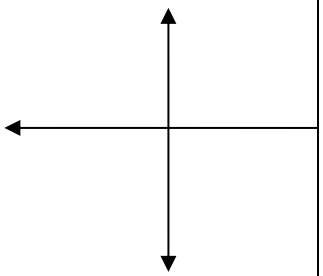
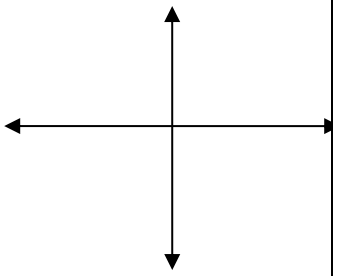
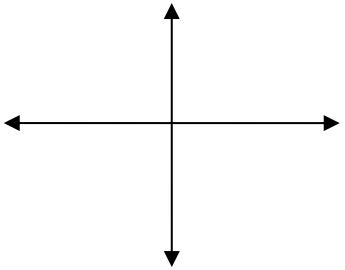
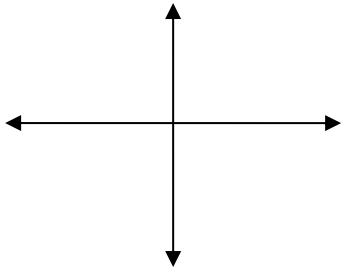
State the end behavior of the following functions.

$y = 3x + 2$ $\qquad$ $y = 4x^3$ $\qquad$ $y = -t^2 + t$

$y = 2x + x^5$ $\qquad$ $y = x^6$ $\qquad$ $y = 3x^5 - 4x^4$

$-7x^8$ $\qquad$ $y = \frac{1}{2}x^4 - 2$ $\qquad$ $y = -\frac{1}{2}x^3 + 4x^2 + x - 1$

$y = x - x^3 + 5$

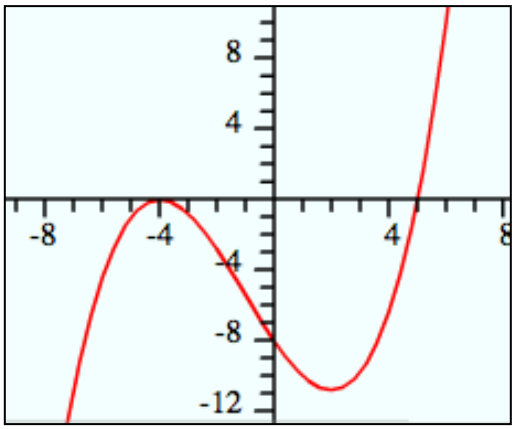
Function	$f(x) = \frac{1}{4}(x - 1)(x + 3)$	$f(x) = \frac{1}{4}(x - 1)(x + 3)^2$	$f(x) = -\frac{1}{4}(x - 1)(x + 3)(x - 3)$	$f(x) = \frac{1}{4}(x - 1)(x + 3)^2(x - 3)$
Leading Coefficient "a"				
Degree (count factors)				
Number of Linear Factors (same as degree)				
End Behavior (use arrows)	(___ , ___)	(___ , ___)	(___ , ___)	(___ , ___)
Number of Turning Points				
y-intercept				
Number of Real Zeros	**Crossing:** **Touching:** **Total:**	**Crossing:** **Touching:** **Total:**	**Crossing:** **Touching:** **Total:**	**Crossing:** **Touching:** **Total:**
Sketch of Graph put dots on zeros and y-intercept				

Crossing zeros at _____

Touching zeros at _____

Degree _____

Equation: f(x) = a ( ) ( )



y-intercept (0, -8)

Solve for a

Equation in factored form with the value for a:

y =