

SM3-A HW #3-4 (nice 3rd degree polys)

Date _____ Period _____

- 1) (a) write the intercept from equation
 (b) find the x-intercepts.

$$y = 6x^3 - 18x^2 + 12x$$

- 2) (a) write the intercept from equation
 (b) find the x-intercepts.

$$y = 3x^3 - 21x^2 - 64x$$

- 3) a) Factor the following
 b) Find the "zeroes" of the polynomial:

$$y = x^3 + 8$$

- 4) a) Factor the following
 b) Find the zeroes of the polynomials

$$y = x^3 - 27$$

Describe the end behavior of each function.

5) $f(x) = -2x^2 + 5x^5 - 2x^3 + x + 3$

6) $f(x) = -5x^3 + 3x^4 - x^2 - x$

- 7) a) Write the polynomial in intercept form.
 b) find the zeroes of the polynomial

$$f(x) = 5x^3 - x^2 - 5x + 1$$

- 8) a) Write the polynomial in intercept form.
 b) find the zeroes of the polynomial

$$f(x) = 2x^3 + x^2 - 2x - 1$$

- 9) a) Write the polynomial in intercept form.
b) find the zeroes of the polynomial
 $f(x) = 3x^4 + x^3 - 3x^2 - x$

- 10) a) Write the polynomial in intercept form.
b) find the zeroes of the polynomial
 $f(x) = 5x^4 - x^3 - 5x^2 + x$

Find all zeros.

- 11) a) Factor
b) find the zeroes
 $f(x) = x^4 + 12x^2 + 35$

- 12) a) Factor
b) find the zeroes
 $f(x) = x^4 + 13x^2 + 40$

- 13) a) Factor
b) find the zeroes
 $f(x) = x^4 - 9x^2 + 14$

- 14) a) Factor
b) find the zeroes
 $f(x) = x^4 + 8x^2 + 16$

- 15) through: $(-2, -5)$ and $(3, 3)$

- 16) through: $(1, -4)$ and $(-3, -2)$

- 17) Domain=?
Range = ?
 $y = -2\sqrt{x+5} + 4$