Turn in homework:

3.5 #27-67 odd

3.6 #31-39 odd; 47, 53-61 odd

3.7 #25-33odd; 23, 37

Point-Slope Equation:

$y-y_1=m(x-x_1)$

Review: Given the line $2x-3y=5$, determine the equations of both a line parallel to and perpendicular to this line which pass through the point $(1,1)$.

$-3y=-2x+5$

$y=\frac{2}{3}x-\frac{5}{3}$

parallel: $m=2/3$

$y-1=\frac{2}{3}(x-1)$

$y=\frac{2}{3}x-\frac{2}{3}+1$

$y=\frac{2}{3}x+\frac{1}{3}$

perpendicular: $-3/2$

$y-1=-\frac{3}{2}(x-1$

$y=-\frac{3}{2}x+\frac{3}{2}+$

$y=-\frac{3}{2}x+\frac{5}{2}$

Factor.

3.3

46. $f(x)=x^4-4x^3-7x^2+34x-24$

hint: 1 is a zero.

1 | 1 −4 −7 34 −24

1 −3 −10 24

$x^3-3x^2-10x+24$ | 0

$(x-1)(x^3-3x^2-10x+24)$

2 | 1 −3 −10 +24

2 −2 −24

$1x^2-1x-12$ | 0

$(x-1)(x-2)(x^2-x-12)$

$(x-1)(x-2)(x-4)(x+3)$

48. $f(x)=x^4+11x^3+41x^2+61x+30$

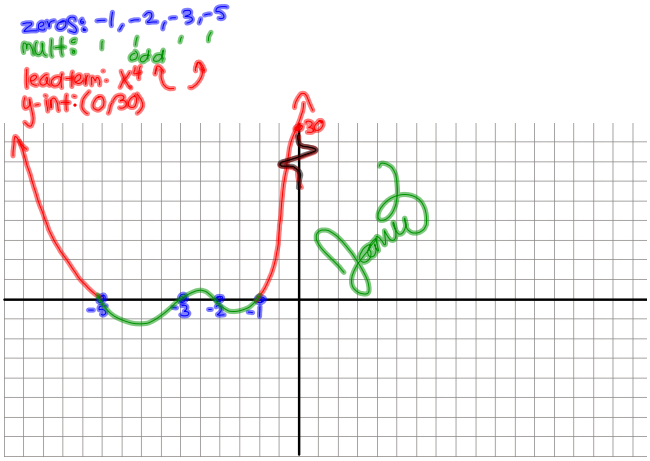
-1 | 1 | 11 | 41 | 61 | 30
| | -1 | -11 | -31 | -30
| 1 | 10 | 31 | 30 | 0

$(x+1)(x^3+10x^2+31x+30)$

-2 | 1 | 10 | 31 | 30
| | -2 | -16 | -30
| $x^2+8x+15$ | 0

$(x+1)(x+2)(x+5)(x+3)$

Graph it.



3.5

63. $f(x)=\dfrac{x^3+2x^2-15x}{x^2-5x-14}$

Graph it.

$f(x)=\dfrac{x(x^2+2x-15)}{(x-7)(x+2)}=\dfrac{x(x+5)(x-3)}{(x-7)(x+2)}$

zeros 0, -5, 3

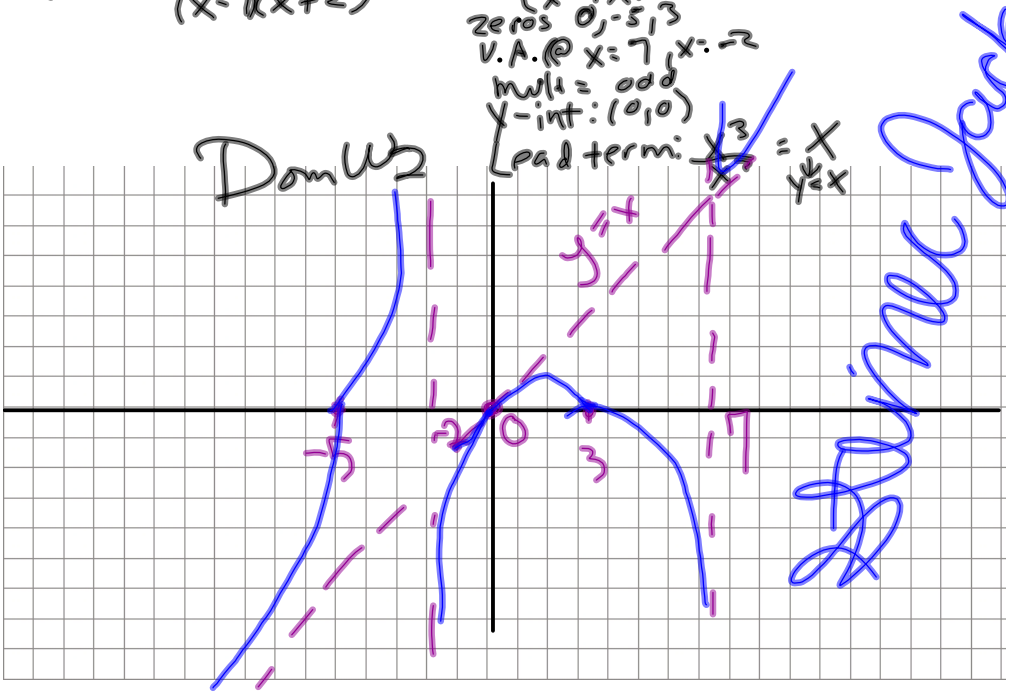
V.A. @ $x=7$, $x=-2$

mult = odd

y-int: (0, 0)

lead term: $\dfrac{x^3}{x^2}=x$

$y=x$



HW:

Old Test #2
(from web)