Graphing Polynomials III (3.4) p148 day 8

Enneagram 7 The Enthusiast

Optimistic, spontaneous, vivacious
Busy, variety-seeking, happy

Core longing: satisfied & content
Core fear: pain, deprivation
Deadly sin: gluttony (experiences)

Sometimes hard to finish things
Avoid difficult situations

Apple display

Get bored easily
Make a lot of lists
Reframe all negatives to positives (premier team)

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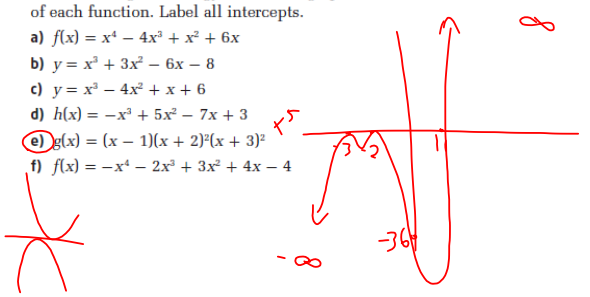
HW: p148#9ce, 11

9. Without using technology, sketch the graph of each function. Label all intercepts.

a) $f(x) = x^4 - 4x^3 + x^2 + 6x$
b) $y = x^3 + 3x^2 - 6x - 8$
c) $y = x^3 - 4x^2 + x + 6$
d) $h(x) = -x^3 + 5x^2 - 7x + 3$
e) $g(x) = (x-1)(x+2)^2(x+3)^2$
f) $f(x) = -x^4 - 2x^3 + 3x^2 + 4x - 4$



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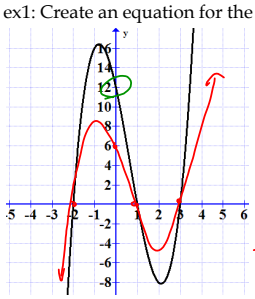
ex1: Create an equation for the following graph.



$y = (x+2)(x-1)(x-3)$
$= (x+2)(x^2-4x+3)$
$= x^3-4x^2+3x$
$\quad +2x^2-8x+6$ y int 12
$y = x^3-2x^2-5x+6$ x2
$y = 2x^3-4x^2-10x+12$

you have to correct for the y intercept by multiplying!

10c

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ex2: Three consecutive integers have a product of 720. What are the integers?

let x rep integer
$\therefore x(x+1)(x+2) = 720$
$x(x^2+3x+2) = 720$
$x^3+3x^2+2x-720 = 0$
$f(8) = 512+192+16-720 = 0$
$\therefore (x-8)$

	1	3	2	-720
8		8	88	720
	1	11	90	0

$\therefore (x-8)(x^2+11x+90) = 0$

$x = \frac{-11 \pm \sqrt{121-4(1)(90)}}{2}$
$= \frac{-11 \pm \sqrt{121-360}}{2}$
no soln here.

$\therefore$ integers are 8, 9, 10

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HW: p148#6c, 14ac, 13, 19