A - 85-100
B - 70-84
C - 55-69
D - 40-54
F - 0-39

} Rough. might get better.

③ $f(x) = 2x^2 - 5x \Rightarrow$

$$\frac{f(x+h) - f(x)}{h} = \frac{2(x+h)^2 - 5(x+h) - (2x^2 - 5x)}{h}$$

Distributive Law

$$= \frac{2(x^2 + 2xh + h^2) - 5x - 5h - 2x^2 + 5x}{h}$$

$$= \frac{2x^2 + 4xh + 2h^2 - 5x - 5h - 2x^2 + 5x}{h} = \frac{4xh + 2h^2 - 5h}{h}$$

$$= \frac{h(4x + 2h - 5)}{h} = 4x + 2h - 5$$

(B) $\xrightarrow{h \to 0}$ $4x - 5$

$(x+h)^2 = x^2 + 2xh + h^2$

Test Prep Videos are where it's at.

I have an old Test 3, plus a Test 3 Take-home

http://www.harryzaims.com/121-online/videos/02-Test-Prep-Videos/02-Test-2/problems-worked-in-video/

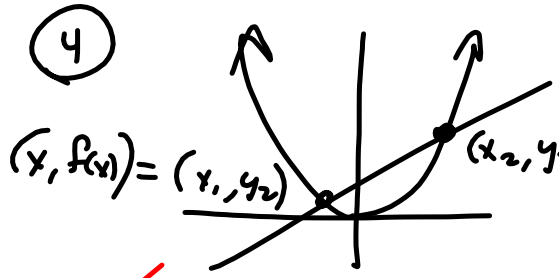
Here I have old Test 3 Take-Home plus this semester's:

http://www.harryzaims.com/121-online/videos/02-Test-Prep-Videos/03-Test-3/

I work every problem on the old one, and changed the numbers for the new one.

Test 3 Sit-Down still needs re-done. There's an older one, but you guys need 'em broken into 5-to-15-minute chunks.

4



Difference quotient is the slope of a line between 2 points on a curve.

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{f(x+h) - f(x)}{x+h - x} = \frac{f(x+h) - f(x)}{h}$$

$$D(f+g) = D(f-g) = D(f \cdot g)$$

$$= \{x \mid x \in D(f) \text{ and } x \in D(g)\}$$

$$D\left(\frac{f}{g}\right) = \{x \mid x \in D(f) \text{ and } x \in D(g) \text{ and } g(x) \neq 0\}$$

$$D(f \circ g) = \{x \mid x \in D(g) \text{ and } g(x) \in D(f)\}$$

$x^4 + 2x^3 - 7x^2 + 2x - 8$

Descartes': 3 or 1 positive

$f(-x) = x^4 - 2x^3 - 7x^2 - 2x - 8$

1 negative

$\pm 1, \pm 2, \pm 4, \pm 8$

$f(x) = (x-2)\cdot(x^3+4x^2+4x+4)$

2	1	+2	-7	+2	-8
		2	8	2	8
2	1	4	1	4	0
		2	12	Nah	
	1	6	13		

$\pm 1, \pm 2, \pm 3$ on test I won't make you look for

-4	1	4	1	4	
		-4	0	-4	
	1	0	1	0	Sweet!
	x^2	x	c	r	

Don't start over, use the work from $x=2$ &

The DEPRESSED polynomial x^3+4x^2+x+4

$f(x) = (x-2)(x+4)(x^2+1)$

$= (x-2)(x+4)(x-i)(x+i)$

$2, -4, \pm i$ are zeros.

$f = \{(1,2), (3,5), (4,2), (-3,5)\}$

$D = \{1, 3, 4, -3\}$

$R = \{2, 5\}$