

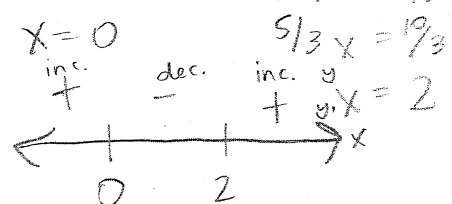
prob. # 33.
 crt. pts.
 $y' = 0$

$$y = x^{-1/3}(x-5)$$

$$y' = \frac{2}{3}x^{-4/3}(x-5) + x^{-1/3}$$

$$y' = x^{-4/3} \left[\frac{2}{3}(x-5) + x \right]$$

$$y' = x^{-4/3} \left[\frac{5}{3}x - \frac{10}{3} \right]$$

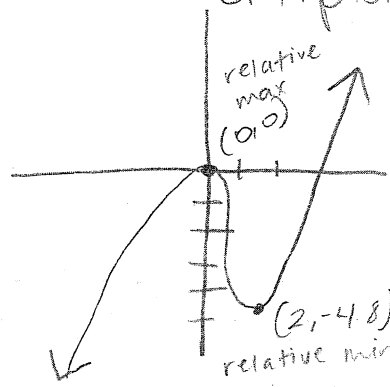


$$y' = \frac{1}{3}x^{-4/3}(5x-10)$$

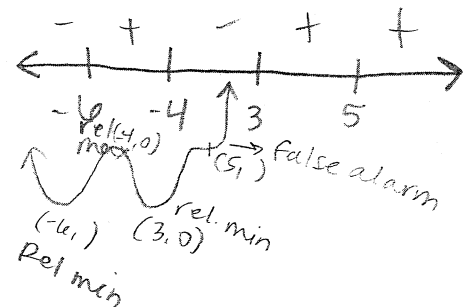
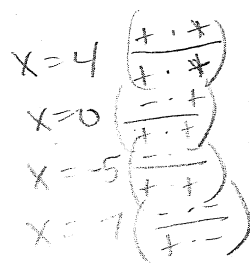
$$y' = \frac{5}{3}x^{-4/3}(x-2)$$

$$y' = \frac{5(x-2)}{3x^{4/3}} = 0$$

crt. pts. = $x = 2, 0$
 $(0,0)$ $(2, 4.8)$

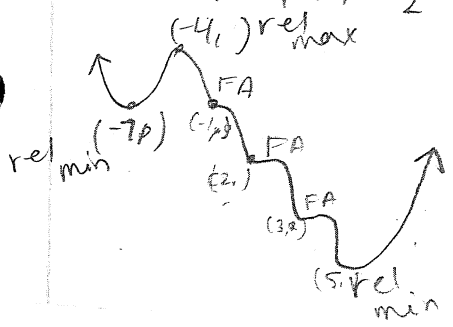


Will be on quiz!
 Ex. $y' = \frac{(x-3)(x+4)}{(x-5)^2(x+6)^3}$
 crt. #s = 3, -4, 5, -6



Suppose: $y' = \frac{-7(x+4)^3(x+1)^2(x-3)^6}{25(x+7)^5(x-2)^6(x-5)^7}$

crt. pts. = -4, -1, 3, -7, 2, 5
 dec inc dec dec dec dec inc



Polynomial Function:

Degree	Grade
2	
3	
4	
5	

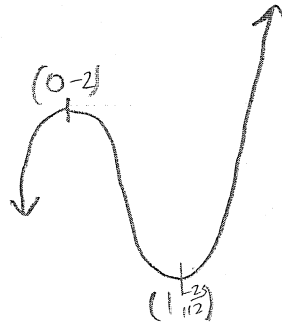
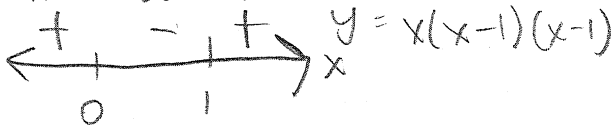
24. $y = \frac{1}{4}x^4 - \frac{2}{3}x^3 + \frac{1}{2}x^2 - 2$

$y' = x^3 - 2x^2 + x$

$x(x^2 - 2x + 1) = 0$

$x(x-1)(x-1) = 0$

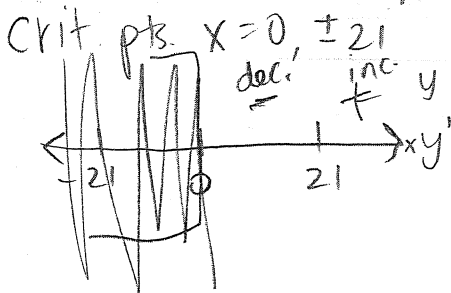
inc. $x=0$, dec. $x=1$, inc. $x=1$



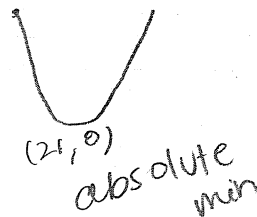
52. $\bar{C}(x) = 2900x + 1,278,900x^{-1}, x > 0$

$\bar{C}'(x) = 2900 - 1,278,900x^{-2}$
 $= 2900 - \frac{1,278,900}{x^2}$

$\bar{C}'(x) = \frac{2900x^2 - 1,278,900}{x^2}$



$2900x^2 - 1,278,900 = 0$
 $x = \pm 21$



pg.