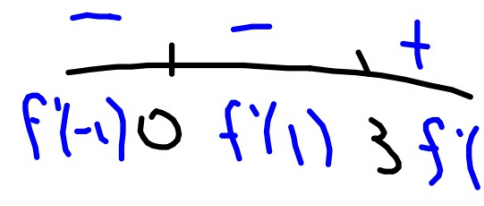
$y = x^4 - 4x^3$

$0 = 4x^3 - 12x^2$

$0 = 4x^2(x-3)$

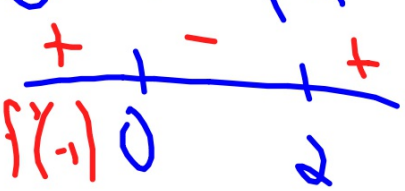


$0 = x^3(x-4)$

$0, 4$

$0 = 12x^2 - 24x$

$0 = 12x(x-2)$



Ex $f(x) = 2x^3 - 3x^2 - 12x + 5$

$0 = 6x^2 - 6x - 12$

$0 = 6(x^2 - 1x - 2)$

$0 = 6(x-2)(x+1)$

$x = 2, -1$

+	−	+
$f'(-2)$	-1	$f'(0)$	2	$f'(3)$

$0 = 12x - 6$

$6 = 12x$

$\frac{1}{2} = x$

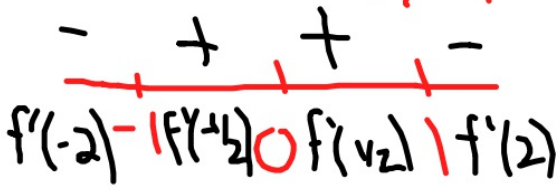
−	+
$f'(0)$	$\frac{1}{2}$	$f'(1)$

Ex. $f(x) = -3x^5 + 5x^3$

$0 = -15x^4 + 15x^2$

$0 = -15x^2(x^2 - 1)$

$0 \qquad 1, -1$



$0 = -60x^3 + 30x$

$0 = -30x(2x^2 - 1)$

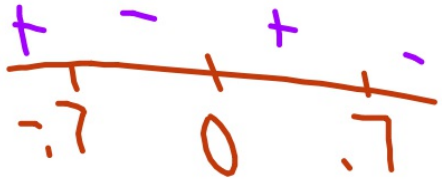
$0 \qquad 2x^2 - 1 = 0$

$2x^2 = 1$

$\frac{2x^2}{2} = \frac{1}{2}$

$\sqrt{x^2} = \sqrt{\frac{1}{2}}$

$x = \pm .71$

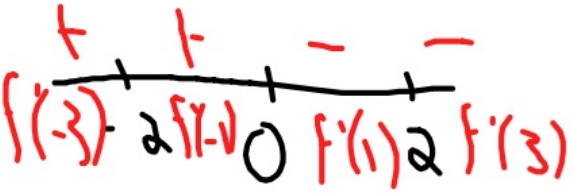


Ex. $f(x) = \frac{x^2+1}{x^2-4}$

$0 = \frac{(x^2-4)(2x) - (x^2+1)(2x)}{(x^2-4)^2}$

$0 = \frac{2x^3 - 8x - 2x^3 - 2x}{(x^2-4)^2}$

$= \frac{-10x}{(x^2-4)^2}$



p. 195
1-19 odd
(Not 17)
1-9 intervals
11-19 Draw