$f(x) = x^2 - 6x + 5 = (x-5)(x-1)$

$(3, f(3)) = (3, -4)$

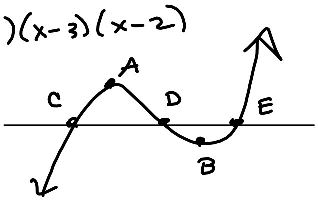
$f(x) = x^2 - 6x^1 + 3^2 - 9 + 5 = (x-3)^2 - 4$

$f'(x) = 2x^{2-1} - 6x^0 = 2x - 6 \overset{SET}{=} 0$

$\Rightarrow 2x = 6$

$x = 3$!

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



$(x-1)(x^2-5x+6)$

$= x^3 - 5x^2 + 6x$

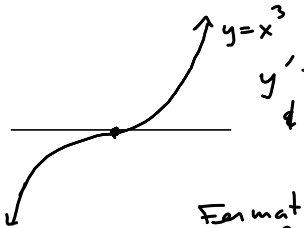
$\quad -x^2 + 5x - 6$

$= x^3 - 6x^2 + 11x - 6$

$C = (1,0),\ D = (2,0),\ E = (3,0)$

$\approx$ (1.422649731, 0.3849001793)

$\approx$ (2.577350269, - 0.3849001793)



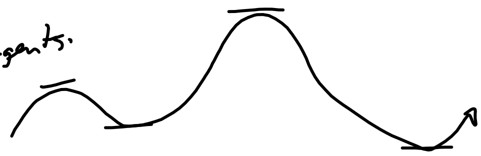
$y' = 0$ at 0

& it's a terrace point, there.

Fermat's Theorem If f has a max/min at $x = c$ and f is smooth, then $f'(c) = 0$

Highs & Lows?

Horizontal Tangents.

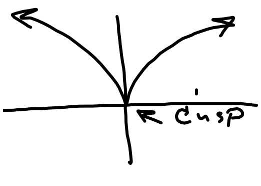


$\frac{d}{dx}\left[x^n\right] = n x^{n-1}$ Power Rule.

$\frac{d}{dx}\left[x^3 - 6x^2 + 11x - 6\right] = 3x^2 - 12x^1 + 11 = f'(x)$

Big Goal

$\frac{d}{dx}\left[x^{\frac{2}{3}}\right] = \frac{2}{3}x^{-\frac{1}{3}} = \frac{2}{3x^{1/3}} = \frac{2}{3\sqrt[3]{x}}$



$x = 0$ is critical # for f.:

Where f exists, $f' \nexists$ OR $f' = 0$

Min of f @ $x = 0$ of $y = 0$.

$f(0) = 0$ is minimum.