① $f(x) = 2x^3 - 3x^2 - 12x + 10$

$f'(x) = 6x^2 - 6x - 12 = 0$

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

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

$x = 2, -1$

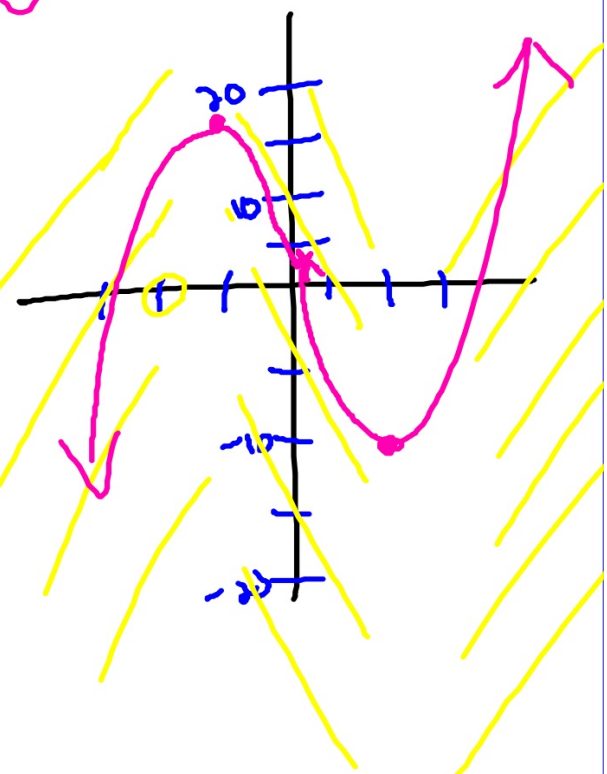
$f(2) = -10 \quad (2, -10)$ Rel Min

$f(-1) = 17 \quad (-1, 17)$ Rel Max

$f''(x) = 12x - 6$

$f(\frac{1}{2}) = 3.5 \quad (\frac{1}{2}, 3.5)$ POI

$24 + 12 = 12$



(2) $f(x) = 3x^4 - 8x^3 + 6x^2$

$f'(x) = 12x^3 - 24x^2 + 12x$

$x = 0, 1, 1$

$f(0) = 0 \quad (0,0)$ Abs Min

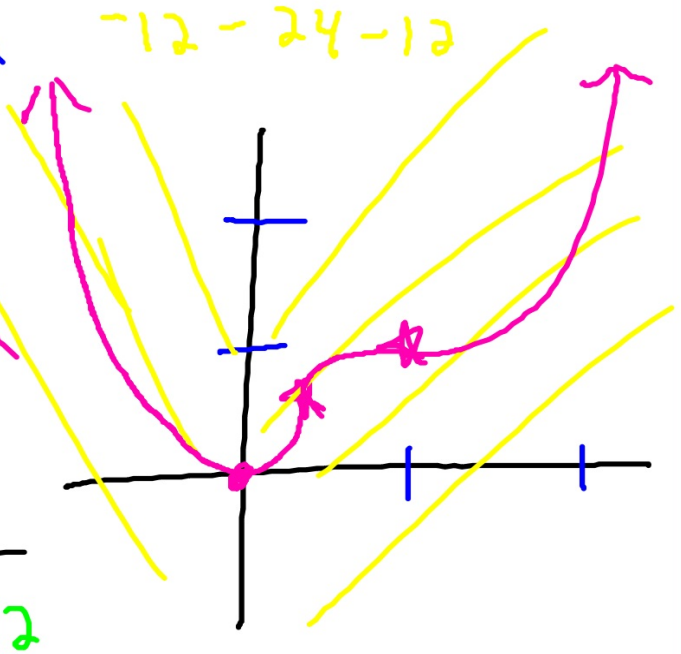
$f(1) = 1 \quad (1,1)$ - POI

$f''(x) = 36x^2 - 48x + 12$

$x = \frac{1}{3}, 1$

$f(\frac{1}{3}) = .407 \quad (\frac{1}{3}, .407)$ } POI

$f(1) = 1 \quad (1,1)$ }



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

$f'(x) = 6x + 4$

$x = -2/3$

$f(-2/3) = -19/3$

$(-2/3, -19/3)$

$f''(x) = 6 > 0$