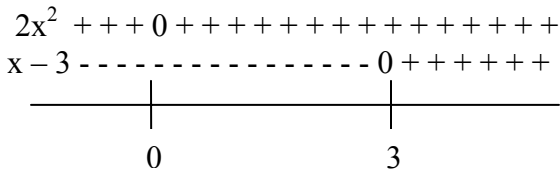


$$f(x) = \frac{1}{2}x^4 - 2x^3 + 6$$

$$f'(x) = 2x^3 - 6x^2 = 2x^2(x - 3)$$

So we have critical points at $x = 0, 3$



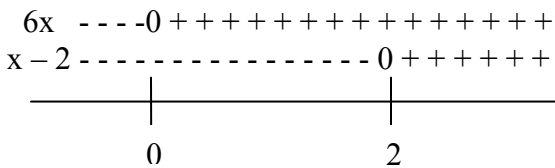
f is decreasing on $(-\infty, 0)$ and $(0, 3)$

f is increasing on $(3, +\infty)$

f has a relative minimum of -7.5 at $x = 3$

f has no relative maximum

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



f is concave up on $(-\infty, 0)$ and $(2, +\infty)$

f is concave down on $(0, 2)$

f has an inflection points of $(0, 6)$ and $(2, -2)$

