- Sec 10.2:

[2] $f(x) = x^3 + 6x - 4$ at (a) $x = -5$, (b) $= x = 7$.
determine whether each function is concave up or down:-

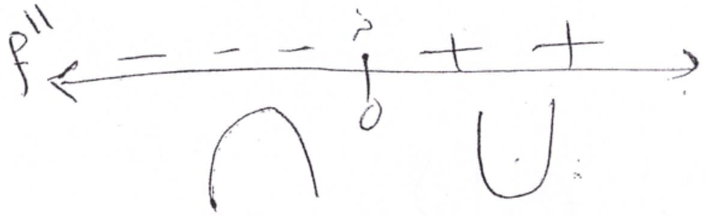
$f'(x) = 3x^2 + 6$

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

→ $f''(x) = 0$

$6x = 0 \rightarrow \boxed{x = 0}$

→ $f''(x)$ is undefined: No values.



∴ f is concave up $(0, \infty)$
f " " down $(-\infty, 0)$
f has an inflection point at $(0, f(0)) = (0, -4)$

- So at $x = -5$: f is concave down.
$x = 7$: f " " up.

[18] $y = x^4 - 8x^3 + 16x^2$.
Find the relative max., min., and points of inflection.

لتحديد max. و min. نستطيع استخدام طريقتين

Sign diagram (1)

2nd derivative test (2)

~~[illegible]~~ دخل على أي منهما ,, الأولى ,, :

10.7