

Team Kickass

4.3 #40

$$B(x) = 3x^{\frac{2}{3}} - x$$

*To graph in the calculator

Take the derivative:

$$B' = 2x^{-\frac{1}{3}} - 1 = 0$$

$$2x^{-\frac{1}{3}} = 1$$

$$x^{-\frac{1}{3}} = \frac{1}{2}$$

$$x = \left(\frac{1}{2}\right)^{-3}$$

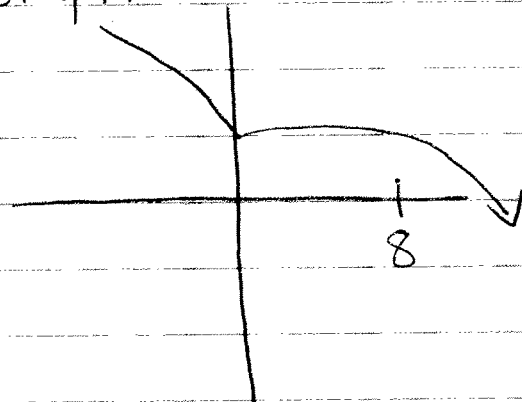
$$x = 2^3$$

$$x = 8$$

$$3x^{\frac{2}{3}} - x$$

(change the x max
in window to 20 to see how
it concaves down
at 8)

Graph:



increase on $(0, 8)$
decrease on $(-\infty, 0) \cup (8, \infty)$
local min $(0, 1)$
no local max
concave down
no inflection