

$$\textcircled{57} F'(x) = -2x - 10 = 0$$

$$x = -5 = \text{critical \#}$$

$$F''(x) = -2$$

$$F''(-5) = -2 \Rightarrow \boxed{\text{rel. max @ } x = -5}$$

$$\textcircled{59} F'(x) = 9x^2 - 6x = 0$$

$$3x(3x - 2) = 0$$

$$x = 0 \quad x = \frac{2}{3} \in \text{critical \#}$$

$$F''(x) = 18x - 6$$

$$F''(0) = -6 \Rightarrow \boxed{\text{rel. max @ } x = 0}$$

$$F''\left(\frac{2}{3}\right) = 6 \Rightarrow \boxed{\text{rel. min. @ } x = \frac{2}{3}}$$

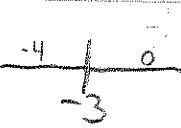
$$\textcircled{61} F'(x) = 4(x+3)^3 = 0$$

$$-x + 3 = 0$$

$$x = -3 \in \text{critical \#}$$

$$F''(x) = 12(x+3)^2$$

$$F''(-3) = 0 \Rightarrow \text{No Information from this, Do 1<sup>st</sup> Der. test}$$



$$F'(-4) = - \quad F'(-2) = +$$

Dec.  $\rightarrow$  Inc.

$$\boxed{\text{rel. min. @ } x = -3}$$

No real max.

$$\textcircled{63} \quad F'(x) = \frac{7}{3}x^{4/3} + \frac{4}{3}x^{1/3} = 0$$

$$\frac{1}{3}x^{1/3}[7x + 4] = 0$$

$$x=0 \quad x = -\frac{4}{7}$$

$$F''(x) = \frac{28}{9}x^{1/3} + \frac{4}{9}x^{-2/3}$$

$$F''(0) = \text{DNE} \Rightarrow \text{No info} \rightarrow$$

$$F''\left(-\frac{4}{7}\right) = - \Rightarrow \text{rel. max @ } x = -\frac{4}{7}$$

rel. min @  $x = 0$

