

Name _____

Sr.# _____

Q1. If $f(x) = x^{2/3}(6-x)^{1/3}$, $f'(x) = \frac{4-x}{x^{1/3}(6-x)^{2/3}}$,

$$f''(x) = \frac{-8}{x^{4/3}(6-x)^{5/3}}$$

- Find the intervals where the graph of f is increasing, decreasing, concave up, concave down.
- Find the x -coordinates of local maximum, local minimum, and inflection points.

Q2.

- 26.** Suppose that $3 \leq f'(x) \leq 5$ for all values of x . Show that $18 \leq f(8) - f(2) \leq 30$.