

Name: _____

Use **differentials** to estimate the change in $y = \sqrt[3]{x}$ as x changes from 8 to 8.7

$$y = x^{1/3}$$
$$dy = \frac{1}{3} x^{-2/3} dx$$

$$\text{Sub } x=8 \quad dx=0.7 :$$

$$dy = \frac{1}{3} (8^{-2/3}) (0.7)$$

$$dy \approx 0.0583$$

The approximate change in y is 0.0583