

Pythagoras

24

$$\int_1^8 \sqrt[3]{x} dx = \int_1^8 x^{\frac{1}{3}} dx$$

$$= \int_1^8 \frac{3x^{\frac{4}{3}}}{4}$$

$$= F(b) - F(a)$$

$$= \frac{3(\sqrt[3]{8})^4}{4} - \frac{3(\sqrt[3]{1})^4}{4}$$

$$= \frac{3(2)^4}{4} - \frac{3(1)^4}{4}$$

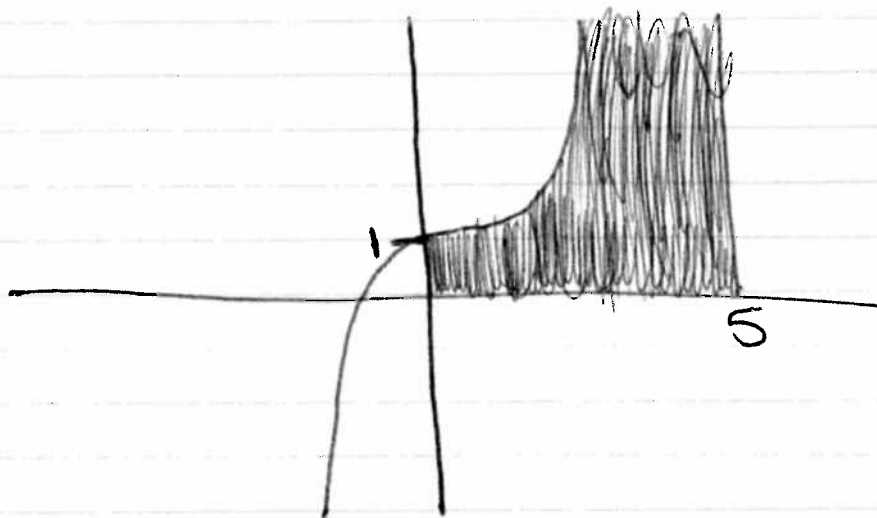
$$= \frac{3 \cdot 16}{4} - \frac{3}{4}$$

$$= 12 - \frac{3}{4}$$

$$= \frac{48 - 3}{4}$$

$$= \frac{45}{4}$$

$$\int_0^5 (1 + 2x^3) dx$$



use the calculator!

$$y_1 = 1 + 2x^3$$

[2nd] [Calc] [7]

$$\int f(x) dx$$

lower : zero

upper : five

$$\int f(x) dx = 317.5$$

$$\text{OR} \rightarrow x + \frac{2x^4}{4} \Big|_0^5$$
$$5 + \frac{5^4}{2} = 317.5$$

W:11 Arbeit

B.A 12 B.S

$f(x)$

$f(4) - f(1)$

$$\int_1^4 (x^2 + 2x - 5) dx$$

$$= \left(\frac{x^3}{3} + 2x^2 - 5x \right) \Big|_1^4$$

$$= \left(\frac{4^3}{3} + 2 \cdot 4^2 - 5 \cdot 4 \right) - \left(\frac{1}{3} + 1 - 5 \right)$$