

1. Find the most general antiderivative of the function. (*Check your answer by differentiation.*)

(a) $f(x) = 3\sqrt{x} - 2\sqrt[3]{x}$

(b) $h(\theta) = 2 \sin \theta - \sec^2 \theta$

(c)

$$f(x) = \frac{2x^4 + 4x^3 - x^2}{x^3}, \quad x > 0$$

2. Find f .

(a) $f'(t) = 4/(1 + t^2), \quad f(1) = 0$

(b) $f''(x) = 8x^3 + 5, \quad f(1) = 0, \quad f'(1) = 8$

3. The graph of f' is shown in the figure. Sketch the graph of f if f is continuous and $f(0) = -1$.

