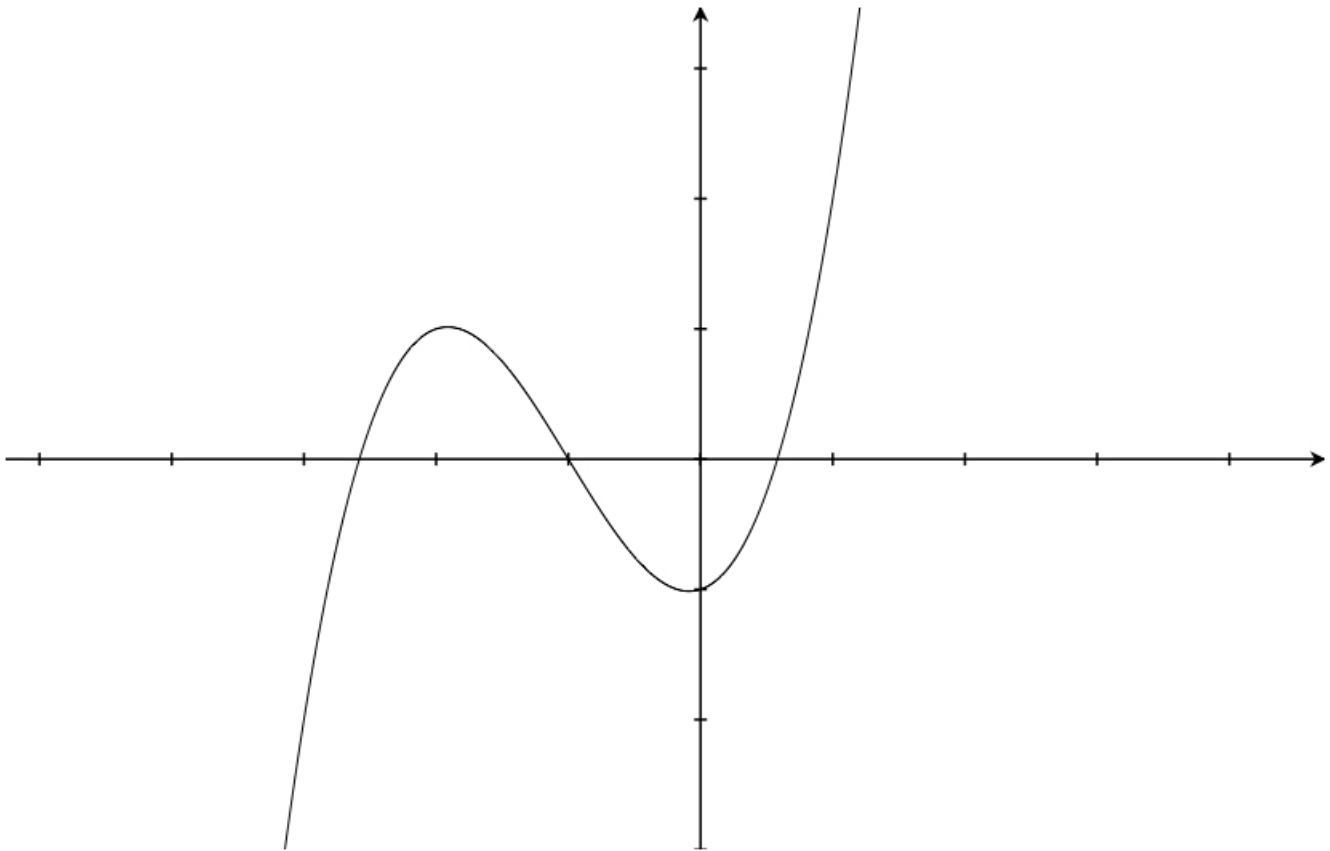1. Find the antiderivative of $f(x) = \sqrt[5]{x^2} - x^2\sqrt{x^3}$

2. Find the antiderivative of $f(x) = \dfrac{x^3 - 3x + 1}{\sqrt{x}}$

3. Find the antiderivative of $f(x) = 4\cos x - \csc^2 x$

4. Given $f''(x) = \dfrac{1}{x^3}$, find $f(x)$.

5. Given $f'(x) = 3 - \dfrac{1}{x}$, $f(1) = 2$, find $f(x)$.

6. Given $f''(x) = \cos x - \sin x$, $f'(\pi) = 1$, $f(\pi) = 1$, find $f(x)$.

7. A stone is dropped from a cliff and hits the ground with a speed of 60 m/s. How tall is the cliff?

8. The marginal cost function of producing x cars is given as $C'(x) = 3000 - 4x$. If the cost of producing one car is \$4800, find the cost of producing 10 cars.

9. The graph of f' is given below. Sketch a possible graph of f.

10. The graph of a function f is given. Sketch a possible graph of its antiderivative.