Find the derivatives of the given functions.

1.
$$f(x) = 2x^{10} + 4x^5 + 20x + \sqrt{2}$$

$$2. g(x) = \frac{1}{2x^3} + 2$$

$$3. \qquad y = \frac{1}{x}$$

$$4. \qquad g(x) = \sqrt[5]{x}^2$$

$$5. \qquad h(x) = \frac{1}{\sqrt{x}}$$

Find the derivatives of the given functions.

1.
$$f(x) = \frac{x^4}{4} - \pi x^3 - x + 6$$

$$2. y = \frac{5x^3}{3}$$

3.
$$f(x) = \frac{10}{x} + \frac{x}{10}$$

$$4. \qquad g(x) = \frac{1}{\sqrt[3]{x^2}}$$

$$5. \quad h(x) = \sqrt{2x}$$