Directions: Find the derivatives of the given functions. Perform any "obvious" simplifications.

1.
$$f(x) = 3 + 2x + 4x^3$$

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

$$3. \quad y = \frac{1-\pi}{x}$$

4.
$$g(x) = \frac{1}{\sqrt{2}} + \frac{1}{\sqrt{x}}$$

Directions: Find the derivatives of the given functions. Perform any "obvious" simplifications.

1.
$$f(x) = 3 + 2x + 4x^3$$

$$2. y = 8\sqrt[3]{x}$$

3.
$$g(x) = \frac{x^5}{5 + \sqrt{2}}$$

4.
$$g(x) = \frac{1}{\pi^2} + \frac{1}{x^2}$$