Opgave 313

Opgave a

$$f(x) = -x^8$$
$$f'(x) = -8x^7$$

Opgave b

$$f(x) = 4x^3$$
$$f'(x) = 12x^2$$

Opgave c

$$f(x) = \frac{1}{2}x^6$$
$$f'(x) = 3x^5$$

Opgave d

$$f(x) = 0.45x^{10}$$
$$f'(x) = 4.5x^9$$

Opgave e

$$f(x) = \sqrt[3]{x}$$
$$f'(x) = \frac{1}{3}x^{-\frac{2}{3}}$$

Opgave f

$$f(x) = \frac{1}{\sqrt[3]{x}}$$
$$f(x) = \frac{1}{x^{\frac{1}{3}}}$$
$$f(x) = \left(x^{\frac{1}{3}}\right)^{-1}$$
$$f(x) = x^{\frac{1}{3}\cdot(-1)}$$
$$f(x) = x^{-\frac{1}{3}}$$
$$f'(x) = -\frac{1}{3}x^{-\frac{4}{3}}$$

Opgave g

$$f(x) = \frac{1}{x^{12}}$$

$$f(x) = x^{12 \cdot (-1)}$$
$$f(x) = x^{-12}$$
$$f'(x) = -12x^{-13}$$

Opgave h

$$f(x) = -6x^{-4}$$
$$f'(x) = 24x^{-5}$$