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Calculer la fonction dérivée des fonctions suivantes

$$f(x) = -5x$$

$$f(x) = 3x$$

$$f(x) = x + 2$$

$$f(x) = 5 - 7x$$

$$f(x) = 2x^2 - 5x + 6$$

$$f(x) = 3x^5 - 2x^3 + 3x^2 - 7x + 2$$

$$f(x) = 2\sqrt{x}$$

$$f(x) = \sqrt{x} - 3x^2$$

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

$$f(x) = 5x - \frac{1}{x}$$

$$f(x) = \frac{5}{\sqrt[3]{x}}$$

$$f(x) = \frac{2}{x^2} - \frac{3}{x^3}$$

$$f(x) = (x+1)(3x-2)$$

$$f(x) = (x+5)(2x-3)$$

$$f(x) = \sqrt{x}(x^2 - 1)$$

$$f(x) = \frac{x+2}{x-3}$$

$$f(x) = \frac{2x^2 - 1}{x+5}$$

$$f(x) = (x-2)^3$$

$$f(x) = (5x-4)^6$$

## ■ Solutions

$$f'(x) = (-5x)' = -5$$

$$f'(x) = (3x)' = 3$$

$$f'(x) = (x+2)' = 1$$

$$f'(x) = (5-7x)' = -7$$

$$f'(x) = (2x^2 - 5x + 6)' = 4x - 5$$

$$f'(x) = (3x^5 - 2x^3 + 3x^2 - 7x + 2)' = 15x^4 - 6x^2 + 6x - 7$$

$$f'(x) = (2\sqrt{x})' = \frac{1}{\sqrt{x}}$$

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

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

$$f'(x) = \left(5x - \frac{1}{x}\right)' = 5 + \frac{1}{x^2}$$

$$f'(x) = \frac{5}{\sqrt[3]{x}}' = -\frac{5}{3x^{4/3}}$$

$$f'(x) = \left(\frac{2}{x^2} - \frac{3}{x^3}\right)' = \frac{9}{x^4} - \frac{4}{x^3} = \frac{9-4x}{x^4}$$

$$f'(x) = ((x+1)(3x-2))' = 3x + 3(x+1) - 2 = 6x + 1$$

$$f'(x) = ((x+5)(2x-3))' = 2x + 2(x+5) - 3 = 4x + 7$$

$$f'(x) = (\sqrt{x}(x^2-1))' = 2x^{3/2} + \frac{x^2-1}{2\sqrt{x}} = \frac{5x^2-1}{2\sqrt{x}}$$

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

$$f'(x) = \frac{2x^2-1}{x+5}' = \frac{4x}{x+5} - \frac{2x^2-1}{(x+5)^2} = \frac{2x^2+20x+1}{(x+5)^2}$$

$$f'(x) = (x-2)^{3'} = 3(x-2)^2$$

$$f'(x) = (5x-4)^{6'} = 30(5x-4)^5$$