Dérivées - Exercices mixtes (2)

Calculer les dérivées :☞ **ici** les réponses

$$f(x) = ln(x-a) - \frac{a(2x-a)}{(x-a)^2}$$
$$f(x) = e^x(1-x)^3$$
$$f(x) = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$
$$f(x) = ln(e^x + e^{-x})$$
$$f(x) = x^{\frac{1}{x}}$$
$$f(x) = 2e^{\sqrt{x}}(x^{\frac{3}{2}} - 3x + 6x^{\frac{1}{2}} - 6)$$
$$f(x) = \frac{(x-1)^{\frac{5}{2}}}{(x-2)^{\frac{3}{4}}(x-3)^{\frac{7}{3}}}$$
$$f(x) = \frac{(x+1)^{\frac{1}{2}}(x+3)^{\frac{9}{2}}}{(x+2)^4}$$
$$f(x) = \frac{e^{x\sqrt{x^2-1}}}{x + \sqrt{x^2-1}}$$
$$f(x) = sinx - \frac{1}{3}sin^3x$$
$$f(x) = \frac{1}{3}tan^3x - tanx + x$$
$$f(x) = \frac{1}{3}tan^3x + tanx$$
$$f(x) = sine^x$$
$$f(x) = tan^2x + ln(cos^2x)$$
$$f(x) = ln(tanx + \frac{1}{cosx})$$

Réponses :

$$f'(x) = (ln(x-a) - \frac{a(2x-a)}{(x-a)^2})' = \frac{x^2+a^2}{(x-a)^3}$$
$$f'(x) = (e^x(1-x)^3)' = e^x(1-3x^2-x^3)$$
$$f'(x) = (\frac{e^x - e^{-x}}{e^x + e^{-x}})' = \frac{4}{(e^x+e^{-x})^2}$$
$$f'(x) = (ln(e^x + e^{-x}))' = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$
$$f'(x) = (x^{\frac{1}{x}})' = \frac{x^{\frac{1}{x}}(1-lnx)}{x^2}$$
$$f'(x) = (2e^{\sqrt{x}}(x^{\frac{3}{2}} - 3x + 6x^{\frac{1}{2}} - 6))' = xe^{\sqrt{x}}$$
$$f'(x) = (\frac{(x-1)^{\frac{5}{2}}}{(x-2)^{\frac{3}{4}}(x-3)^{\frac{7}{3}}})' = -\frac{(x-1)^{\frac{3}{2}}(7x^2+30x-97)}{12(x-2)^{\frac{7}{4}}(x-3)^{\frac{10}{3}}}$$
$$f'(x) = (\frac{(x+1)^{\frac{1}{2}}(x+3)^{\frac{9}{2}}}{(x+2)^4})' = \frac{x^2(x+3)^{\frac{7}{2}}}{(x+2)^5(x+1)^{\frac{1}{2}}}$$
$$f'(x) = (\frac{e^{x\sqrt{x^2-1}}}{x+\sqrt{x^2-1}})' = \frac{2\sqrt{x^2-1}e^{x\sqrt{x^2-1}}}{x+\sqrt{x^2-1}}$$
$$f'(x) = (sinx - \frac{1}{3}sin^3x)' = cos^3x$$
$$f'(x) = (\frac{1}{3}tan^3x - tanx + x)' = tan^4x$$
$$f'(x) = (\frac{1}{3}tan^3x + tanx)' = \frac{1}{cos^4x}$$
$$f'(x) = (sine^x)' = e^x cose^x$$
$$f'(x) = (tan^2x + ln(cos^2x))' = 2tan^3x$$
$$f'(x) = (ln(tanx + \frac{1}{cosx}))' = \frac{1}{cosx}$$

☞ **Retour**