Exercise 2

Dengan menggunakan rumus dasar turunan dan sifatnya, maka tentukan turunan dari fungsi berikut

1. $f(x) = 2x^{-3}$	$f'(x) = (\dots)2x^{\cdots-1} = \cdots x^{\cdots} = \dfrac{-6}{x^{\cdots}}$
2. $f(x) = \frac{3}{x^5}$	$f(x) = \dfrac{3}{x^5} = 3x^{\cdots\cdots}$ $f'(x) = \dots\dots 3x^{\cdots\cdots-1} = \dots\dots 3x^{\cdots\cdots} = \dfrac{\dots\dots}{x^{\cdots\cdots}}$
3. $f(x) = 4\sqrt{x^3}$	$f(x) = 4x^{\frac{3}{\cdots}}$ $f'(x) = \dfrac{3}{\cdots\cdot} 4x^{\cdots\cdots-1} = \dots\dots x^{\cdots\cdots} = \dots\sqrt{x}$
4. $f(x) = 4x^2 + x^{\frac{2}{3}} - \sqrt{x}$	$f(x) = 4x^2 + x^{\frac{2}{3}} - x^{\frac{1}{2}}$ $f'(x) = \dots x + \dfrac{2}{3}x^{\frac{\cdots\cdots}{\cdots\cdots}-1} - \dfrac{\cdots\cdot}{\cdots\cdot}x^{\frac{\cdots\cdots}{\cdots\cdots}-1}$ $f'(x) = \dots x + \dfrac{2}{3}x^{\frac{\cdots\cdots}{\cdots\cdots}} - \dfrac{\cdots\cdot}{\cdots\cdot}x^{\frac{\cdots\cdots}{\cdots\cdots}} = \dots x + \dfrac{2}{3x^{\frac{\cdots\cdots}{\cdots\cdots}}} - \dfrac{1}{2x^{\frac{\cdots\cdots}{\cdots\cdots}}} = \dots x + \dfrac{2}{3\sqrt[3]{x}} - \dfrac{1}{2\sqrt{x}}$
5. $f(x) = (2x+1)(3x-2)$	$u = 2x+1 \quad u' = \dots\dots \quad v = 3x-2 \quad v' = \dots$ $f'(x) = u'v + v'u = \dots(3x-2) + \dots\dots(2x+1) = \dots\dots x - 4 + 6x + \dots\dots$ $f'(x) = \dots\dots x - \dots\dots$
6. $f(x) = \frac{(x+2)^2}{2x^2-3x}$	$u = (x+2)^2 = x^2 + \dots x + 4 \quad u' = \dots\dots x + \dots\dots$ $v = 2x^2 - 3x = x(2x-3) \quad v' = \dots\dots \quad x - 3$ $f'(x) = \dfrac{u'v - v'u}{v^2} = \dfrac{(\dots\dots x + \dots\dots)(2x^2 - 3x) - (\dots\dots \quad x-3)(x^2 + \dots x + 4)}{(x(2x-3))^2}$ $f'(x) = \dfrac{\dots x^3 + \dots x^2 - 12x - (\dots x^3 + \dots x^2 + \dots x - 12)}{x^2 \cdot (2x-3)^2}$ $f'(x) = \dfrac{\dots x^2 - \dots x + 12}{x^2 \cdot (2x-3)^2} = \dfrac{(\dots x + \dots\dots)(x + \dots)}{x^2 \cdot (2x-3)^2}$