

Dérivation d'un quotient

$$\left(\frac{1}{v}\right)' = \frac{-v'}{v^2}$$

$$f(x) = \frac{8}{4x+2} = 8 \times \frac{1}{4x+2} v$$

$$v'(x) = 4$$

$$f'(x) = 8 \times \frac{-4}{(4x+2)^2} = \frac{-32}{(4x+2)^2}$$

$$g(x) = \frac{-9}{6x^2-3x+7} = -9 \times \frac{1}{6x^2-3x+7} v$$

$$v'(x) = 12x-3$$

$$g'(x) = -9 \times \frac{-12x+3}{(6x^2-3x+7)^2}$$

$$g'(x) = \frac{108x-27}{(6x^2-3x+7)^2}$$

$$\left(\frac{u}{v}\right)' = \frac{u'v - v'u}{v^2}$$

$$f(x) = \frac{3x-7}{1-2x} \quad u'(x) = 3 \quad v'(x) = -2$$

$$f'(x) = \frac{3(1-2x) - (-2)(3x-7)}{(1-2x)^2}$$

$$f'(x) = \frac{-11}{(1-2x)^2}$$

$$g(x) = \frac{(x+2)(3-4x)}{2x+1} \quad v'(x) = 2$$

$$u'(x) = (x+2) \times (-4) + 1 \times (3-4x)$$

$$u'(x) = -8x-5$$

$$g'(x) = \frac{(-8x-5)(2x+1) - 2(x+2)(3-4x)}{(2x+1)^2}$$

$$g'(x) = \frac{-8x^2-8x-17}{(2x+1)^2}$$