11. $f(x) = \dfrac{4x+4}{x^2+3}$ $\Big\rangle \begin{array}{l} P \\ Q \end{array}$ $\begin{array}{l} P' = 4 \\ Q' = 2x \end{array}$

① $\dfrac{P'Q - PQ'}{Q^2}$

$f'(x) = \dfrac{4(x^2+3) - (4x+4)(2x)}{(x^2+3)^2}$

$= \dfrac{4(x^2+3) - 4(x+1)(2x)}{(x^2+3)^2}$

$= \dfrac{4\left[x^2+3 - (x+1)(2x)\right]}{(x^2+3)^2}$

$= \dfrac{4\left[x^2+3 - (2x^2+2x)\right]}{(x^2+3)^2}$

$= \dfrac{4\left[x^2+3 - 2x^2 - 2x\right]}{(x^2+3)^2}$

$= \dfrac{4\left[-x^2 - 2x + 3\right]}{(x^2+3)^2}$

$= \dfrac{-4\left[x^2 + 2x - 3\right]}{(x^2+3)^2}$

② $\dfrac{-4(x^2+2x-3)}{(x^2+3)^2} = 0$

$(x^2+3)^2 \left[\dfrac{-4(x^2+2x-3)}{(x^2+3)^2}\right] = 0(x^2+3)^2$

$-4(x^2+2x-3) = 0$

(PSD) $-4(x+3)(x-1) = 0$

$x+3 = 0 \quad x-1 = 0$

$x = -3 \quad x = 1$

$\underline{X = -3}$

$y = \dfrac{4x+4}{x^2+3}$

$= \dfrac{4(-3)+4}{(-3)^2+3}$

$= \dfrac{-12+4}{9+3}$

$= \dfrac{-8}{12}$

$= \dfrac{-2}{3}$

$\boxed{\left(-3, -\tfrac{2}{3}\right)}$

$\underline{X = 1}$

$y = \dfrac{4x+4}{x^2+3}$

$= \dfrac{4(1)+4}{(1)^2+3}$

$= \dfrac{4+4}{1+3}$

$= \dfrac{8}{4}$

$= 2$

$\boxed{(1, 2)}$