Find it Does there exist a number x such that $\dfrac{x-1}{x+2} = 4$? If so, find it; otherwise explain why not.

If such a number existed, it should be different from -2, because otherwise the denominator would be 0 and the fraction would not exist; then the number should satisfy the following equation:

$$x - 1 = 4x + 8,$$

that is

$$-9 = 3x,$$

so $x = -3$, which is different from -2, therefore the number is -3.