

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

$$|x+2| = \begin{cases} x+2 & x+2 \geq 0 \\ x+2 < 0 & \underline{\underline{-(x+2)}} \end{cases} \begin{cases} x \geq -2 \\ x < -2 \end{cases}$$

$$\begin{aligned} (3 \cdot 2 - 2) |2 + 2| &= 4 \cdot 2^2 \\ (6 - 2) \cdot 4 &= 16 \\ 4 \cdot 4 &= 16 \end{aligned}$$

a)  $\begin{cases} x \geq -2 \\ (3x-2)(x+2) = 4x^2 \end{cases} \rightarrow \begin{cases} x \geq -2 \\ (x-2)^2 = 0 \end{cases} \rightarrow \begin{cases} x \geq -2 \\ x = 2 \end{cases} \rightarrow \text{ACCETTABILE}$

b)  $\begin{cases} x < -2 \\ (3x-2)[-(x+2)] = 4x^2 \end{cases} \rightarrow \begin{cases} x < -2 \\ 7x^2 + 4x - 4 = 0 \end{cases}$

$$x_{1,2} = \begin{cases} -0,68 > -2 \text{ NON ACCETTABILE} \\ -2 + 2\sqrt{2} \approx 1,41 > 0 \text{ NON ACCETTABILE} \\ > 2 \end{cases}$$