

Equations et inéquations du premier degré

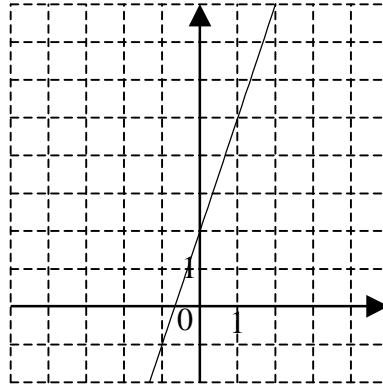
Soit f la fonction définie sur \mathbb{R} par $f(x) = 3x + 2$

$$x \xrightarrow[+3]{\times 3} 3x \xrightarrow[-2]{+2} 3x + 2$$

Equation $f(x) = 6$

$$\begin{array}{l} -2 \quad \left\{ \begin{array}{l} 3x + 2 = 6 \\ \text{change de signe} \\ 3x = 6 - 2 \end{array} \right. \quad -2 \\ \quad \quad \quad \left\{ \begin{array}{l} 3x = 4 \\ \text{au dénominateur} \\ x = 4/3 \end{array} \right. \\ :3 \quad \quad \quad \left\{ \begin{array}{l} 3x = 4 \\ \text{au dénominateur} \\ x = 4/3 \end{array} \right. \quad :3 \end{array}$$

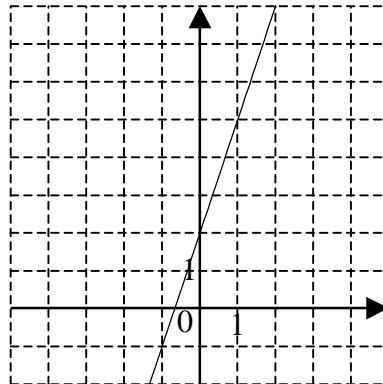
Ensemble des solutions : $S = \left\{ \frac{4}{3} \right\}$



Inéquation $f(x) < 6$

$$\begin{array}{l} -2 \quad \left\{ \begin{array}{l} 3x + 2 < 6 \\ \text{même sens} \\ 3x < 6 - 2 \end{array} \right. \quad -2 \\ \quad \quad \quad \left\{ \begin{array}{l} 3x < 4 \\ \text{même sens} \\ x < 4/3 \end{array} \right. \\ :3 \quad \quad \quad \left\{ \begin{array}{l} 3x < 4 \\ \text{même sens} \\ x < 4/3 \end{array} \right. \quad :3 \end{array}$$

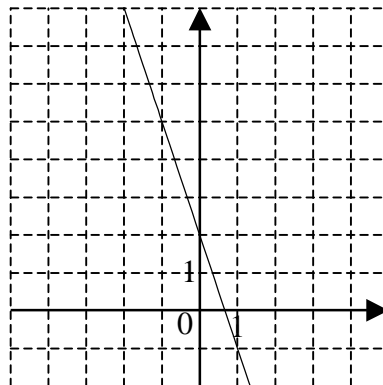
Ensemble des solutions : $S =]-\infty; \frac{4}{3}[$



Inéquation $-3x + 2 < 6$

$$\begin{array}{l} -2 \quad \left\{ \begin{array}{l} -3x + 2 < 6 \\ \text{même sens} \\ -3x < 6 - 2 \end{array} \right. \quad -2 \\ \quad \quad \quad \left\{ \begin{array}{l} -3x < 4 \\ \text{sens opposé !} \\ x > 4 / (-3) \end{array} \right. \\ :(-3) \quad \quad \quad \left\{ \begin{array}{l} -3x < 4 \\ \text{sens opposé !} \\ x > 4 / (-3) \end{array} \right. \quad :(-3) \end{array}$$

Ensemble des solutions : $S =]-\frac{4}{3}; +\infty[$



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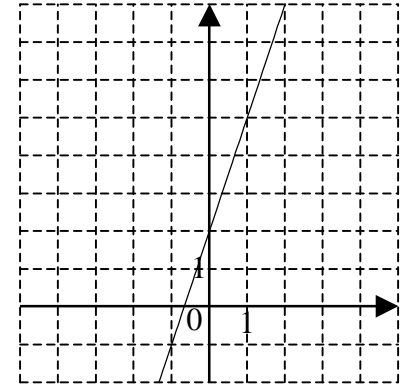
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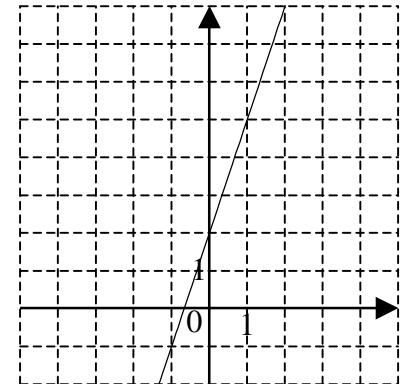
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