

## Division par 0

$$\begin{aligned} (I_2) \quad x^2 &> 7x \\ \cancel{x}x &> 7\cancel{x} \\ x &> 7 \end{aligned}$$

## $-x^2$ et $(-x)^2$

$$\Delta = b^2 - 4ac = -7^2 - 4 \times 1 \times (-14) = 740$$

$$\begin{aligned} 2) \quad 9 - x^2 &= 25 \\ 9 - x^2 - 25 &= 0 \\ (-x)^2 - 16 &= 0 \\ (-x - 4)(-x + 4) &= 0 \\ \text{les solutions sont } &-4 \text{ et } 4 \end{aligned}$$

## Discriminant

$$\begin{aligned} \frac{2}{3}(x-2)^2 - 2 \quad \text{donc } a &= \frac{2}{3} \quad b = 1 \quad \text{et } c = 2 \\ \Delta &= b^2 - 4ac = 1 - \left(4 \times \frac{2}{3} \times 2\right) = -\frac{4}{3} \end{aligned}$$

## Equations équivalentes

$$\begin{aligned} 9 - x^2 &= 25 \\ -x^2 - 16 &= 0 \\ \text{donc } x^2 &= 16 \\ S_{\mathbb{R}} &= \{-4; 4\} \end{aligned}$$

## Inéquations équivalentes

$$\begin{aligned} I_2 &= x^2 > 7x \\ &\Leftrightarrow x^2 - 7x > 0 \\ &\Leftrightarrow x(x-7) > 0 \\ x > 0 & \quad x-7 > 0 \\ x > 0 & \quad x > 7 \end{aligned}$$

## Equation $x^2 = A$

$$\begin{aligned} 9 - x^2 - 25 &= 0 \\ -x^2 - 16 &= 0 \\ -(x^2 + 16) &= 0 \\ x^2 + 16 &= 0 \\ x^2 &= 16 \\ x &= \sqrt{16} \\ x &= 4 \end{aligned}$$

$$\begin{aligned} 9 - x^2 &= 25 \\ 0 &= 25 - 9 + x^2 \\ 0 &= 16 + x^2 \\ x &= \sqrt{16} = 4 \end{aligned} \quad S = \{1; -2\}$$

## Factorisation et développement

$$\begin{aligned} \frac{2}{3} (x-1)^2 - 2 \\ \frac{2}{3} (x^2 - 2x + 1) - 2 \\ \frac{2}{3} (x^2 - 2x + 1 - 2) \end{aligned}$$

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