■ **$x^2 = 4 \Longrightarrow x = \pm 2$. Why?**

Answer

$\Longrightarrow x^2 = 4$

$\Longrightarrow \sqrt{x^2} = \sqrt{4}$

$\Longrightarrow |x| = \sqrt{4}$

$\Longrightarrow |x| = 2$

$\Longrightarrow x = 2 \vee x = -2$

■ **$(x-2)^2 = 9 \Longrightarrow x = 5, -1$. Why?**

Answer

$\Longrightarrow (x-2)^2 = 9$

$\Longrightarrow \sqrt{(x-2)^2} = 9$

$\Longrightarrow |x-2| = \sqrt{9}$

$\Longrightarrow |x-2| = 3$

Case: $x - 2 > 0$
$x - 2 = 3 \Longrightarrow x = 5$

Case: $x - 2 < 0$
$x - 2 = -3 \Longrightarrow x = -1$