

$$x - 2 = \sqrt{x + 10}$$

Which of the following values of  $x$  is a solution to the equation above?

- A. -1      $-1-2 = \sqrt{-1+10}$
- B. 1        $-3 = \sqrt{9}$
- C. 2
- D. 6

Guess & check

(D)

$$\begin{aligned} &6 - 2 = \sqrt{6 + 10} \\ &4 = 4 \end{aligned}$$

$$\begin{aligned} (x-2)^2 &= (\sqrt{x+10})^2 \\ x^2 - 4x + 2^2 &= x + 10 \\ x^2 - 4x - x &= -4 + 10 \\ x^2 - 5x - 6 &= 0 \end{aligned}$$

2PT

$$\begin{aligned} x \cdot y &= 6 \\ 2 \cdot 3 &= 6 \end{aligned}$$
$$\begin{array}{r} -6 \\ \times 1 \\ \hline -6 \\ -5 \end{array}$$
$$(x-6)(x+1) = 0$$
$$\begin{aligned} x-6 &= 0 & x+1 &= 0 \\ x &= 6 & x &= -1 \end{aligned}$$