# Algebra (Hard)

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- If each expression under the square root is greater than or equal to 0, what is $\sqrt{x^2-6x+9}+\sqrt{2-x}+x-3$?
  - $\sqrt{2-x}$
  - $2x-6+\sqrt{2-x}$
  - $\sqrt{2-x}+x-3$
  - $2x-6+\sqrt{x-2}$
  - $x+\sqrt{x-2}$

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# Algebra | Answers



- Based on the setup (and Math principles tested on the GMAT), $(2 - x)$ has to be $\geq 0$. Therefore $x \leq 2$.
- $\sqrt{x^2 - 6x + 9} = \sqrt{(x-3)^2} = 3 - x$
- Because $x \leq 2$, $x - 3 < 0$
- Therefore: $3 - x + \sqrt{2 - x} + x - 3 = \sqrt{2 - x}$
- **The correct answer is A**