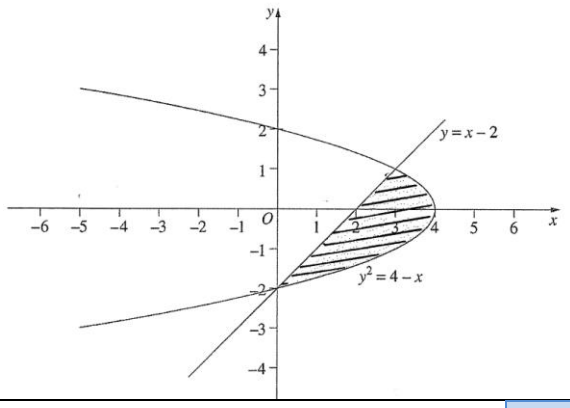
12	**8**	The diagram shows the region enclosed by $y = x - 2$ and $y^2 = 4 - x$. Which of the following pairs of inequalities describes the shaded region in the diagram? (A) $y^2 \leq 4 - x$ and $y \leq x - 2$ (B) $y^2 \leq 4 - x$ and $y \geq x - 2$ (C) $y^2 \geq 4 - x$ and $y \leq x - 2$ (D) $y^2 \geq 4 - x$ and $y \geq x - 2$ 	**1**

State Mean: **0.44**

A

Choose point inside region: eg (3, 0)

For $y^2 = 4 - x$, $0 = 4 - 3$?

$0 = 1$?

But $0 \leq 1$ $\therefore$ $y^2 \leq 4 - x$

For $y = x - 2$, $0 = 3 - 2$?

$0 = 1$?

But $0 \leq 1$ $\therefore$ $y \leq x - 2$

$\therefore$ $y^2 \leq 4 - x$ and $y \leq x - 2$