Sets and Relations

Question1

The solution set of the inequation $\sqrt{x^2+x-2} > (1-x)$ is

TG EAPCET 2024 (Online) 11th May Morning Shift

Options:

A. $(-\infty, 2)$

B. $(-\infty, -2)$

C. $(1, \infty)$

D. $(0, \infty)$

Answer: C

Solution:

$\sqrt{x^2+x-2} > 1-x$

$\Rightarrow \quad x^2+x-2 \geq 0$

and $x^2+x-2 > 1+x^2-2x$

$\Rightarrow (x+2)(x-1) \geq 0$ and $3x > 3$

$\Rightarrow x \leq -2$ or $x \geq 1 \quad$ and $x > 1$

On combining the inequality, we get $x > 1$ i.e., $(1, \infty)$
