

Set of values of x satisfying the inequality $\frac{x^2 + 6x - 7}{|x + 4|} < 0$ is/are

A) $(-\infty, -7)$

B) $(-7, 4)$

C) $(-4, 1)$

D) $(1, \infty)$

Solution:

$$[c] \frac{x^2 + 6x - 7}{|x + 4|} < 0 \Rightarrow x^2 + 6x - 7 < 0 \text{ provided } x + 4 \neq 0 \quad [\because |x + 4| > 0 \text{ if } x \neq -4]$$

$$\Rightarrow (x + 7)(x - 1) < 0, x \neq -4 \Rightarrow -7 < x < 1, x \neq -4 \therefore x \in (-7, -4) \cup (-4, 1)$$