

Que 7:

The area bounded by the curves $y = |x| - 1$ and $y = -|x| + 1$ is

[2002S]

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- (a) 1
- (b) 2
- (c) $2\sqrt{2}$
- (d) 4

solution:

(b) The given lines are

$$y = x - 1; y = -x - 1;$$

$$y = x + 1 \text{ and } y = -x + 1$$

which are two pairs of parallel lines and distance between the lines of each pair is $\sqrt{2}$. Also non parallel lines are perpendicular. Thus lines represents a square of side $\sqrt{2}$. Hence, area = $(\sqrt{2})^2 = 2$ sq. units.