



shortest distance from a point to a line is through a perpendicular connector.

$\triangle BDC \sim \triangle ABC$  (similar triangles)

$$\frac{BD}{BC} = \frac{AB}{AC} \quad \text{--- (1)}$$

since  $\triangle ABC$  is right triangle

$$AC = 5 \quad [AC^2 = AB^2 + BC^2]$$

substituting in (1)

$$\frac{BD}{4} = \frac{3}{5}$$

$$BD = \frac{12}{5}$$

$$\text{Diagonal of square } s = \frac{12}{5} - 2 = \frac{2}{5}$$