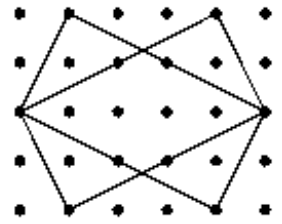




11. The distance between two neighbouring dots in the dot lattice is 1 unit. What, in square units, is the area of the region where the two rectangles overlap?



- A 6      B  $6\frac{1}{4}$       C  $6\frac{1}{2}$  D      7 E  $7\frac{1}{2}$

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11. **B** Let the six points where lines meet on the dot lattice be  $A, B, C, D, E, F$  as shown and let the other two points of intersection be  $P$  ( where  $AC$  and  $BF$  meet ) and  $Q$  ( where  $CE$  and  $DF$  meet ).

Triangles  $APB$  and  $CPF$  are similar with base lengths in the ratio 3:5. Hence triangle  $CPF$  has height  $\frac{5}{8} \times 2 = \frac{5}{4}$  units and base length 5 units so that its area is  $\frac{1}{2} \times \frac{5}{4} \times 5$  square units. Since the same is true of triangle  $CQF$ , the required area is  $\frac{5}{4} \times 5 = 6\frac{1}{4}$  square units.

