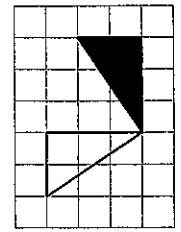
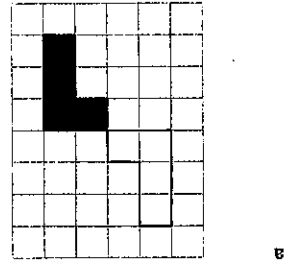


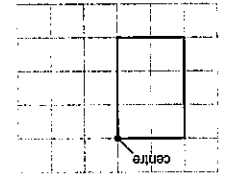
1 These shapes have been rotated clockwise to their shaded images. What is the angle of rotation?



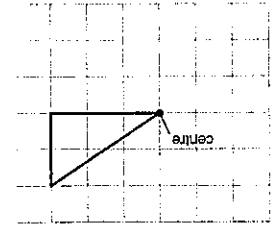
Angle of rotation = _____

Angle of rotation = _____

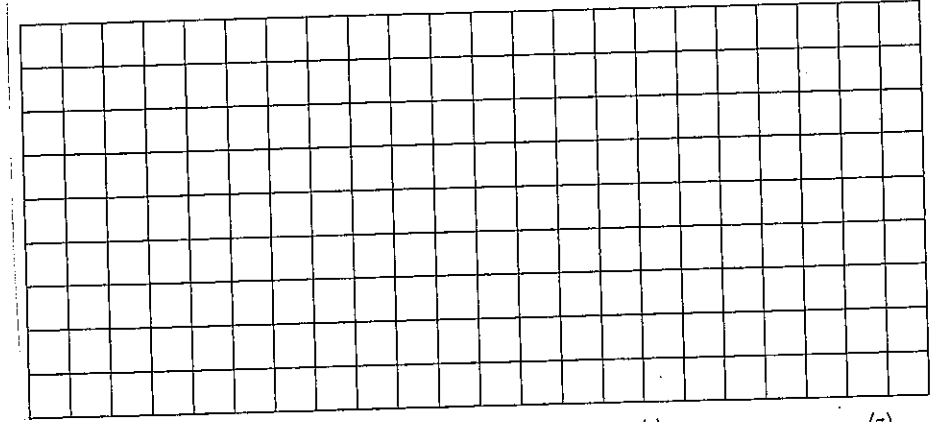
2 Rotate these shapes around the centre by the angle shown. Draw their images and shade them in.



90° anticlockwise



180°



3 Draw these vectors.

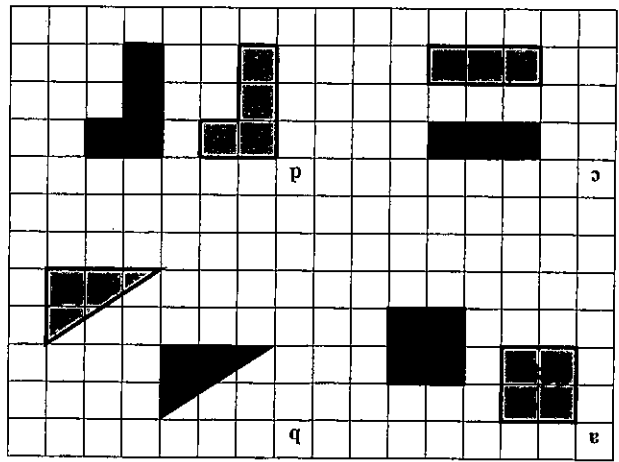
a $\begin{pmatrix} 2 \\ 4 \end{pmatrix}$

b $\begin{pmatrix} 1 \\ 3 \end{pmatrix}$

c $\begin{pmatrix} -2 \\ 4 \end{pmatrix}$

d $\begin{pmatrix} 0 \\ -3 \end{pmatrix}$

4 Give the vectors that have translated the grey objects to the black images.



5 Translate these shapes using the vectors given.

