

**Check**

4. What is the angle of rotation symmetry for a shape with each order of rotational symmetry?

a) 3

b) 5

c) 9

d) 12



5. What is the order of rotational symmetry for each angle of rotation symmetry?

a)  $60^\circ$

b)  $20^\circ$

c)  $45^\circ$

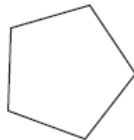
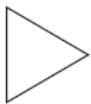
d)  $36^\circ$



6. What is the order of rotational symmetry and angle of rotation symmetry for each regular polygon?

a) an equilateral triangle

b) a regular pentagon

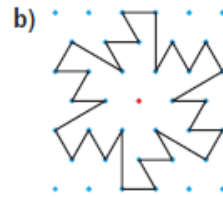
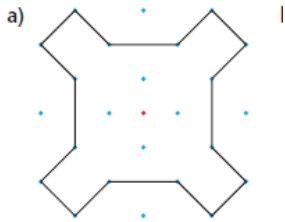


c) a square

d) a regular octagon



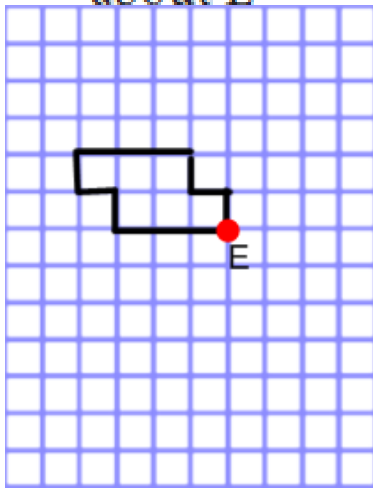
8. Does each shape have rotational symmetry about the red dot? If it does, state the order and the angle of rotation symmetry.



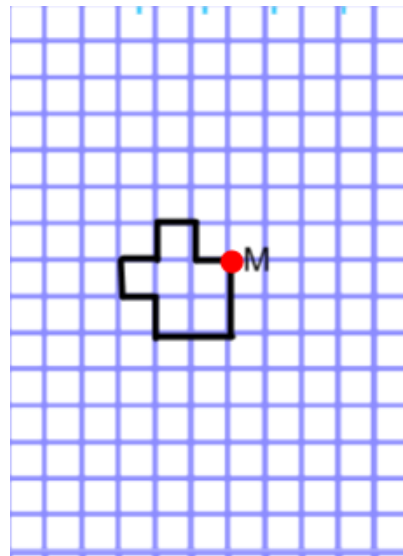
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9. Copy each shape on grid paper. Draw the rotation image after each given rotation.

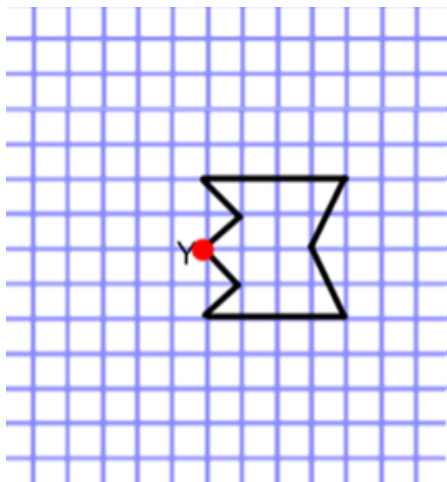
a)  $90^\circ$  clockwise  
about E



b)  $180^\circ$  about M



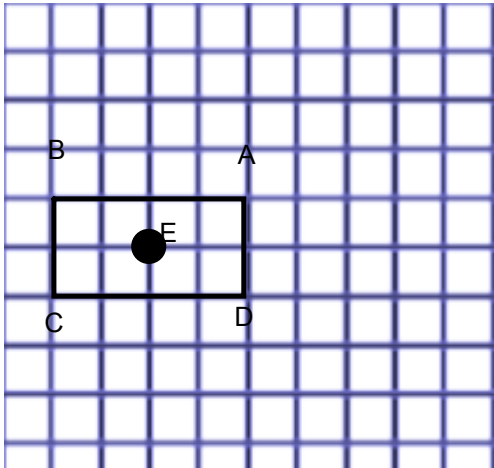
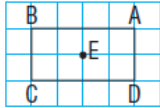
c)  $270^\circ$  counter clockwise about Y



13. **Assessment Focus** Rotate each shape.

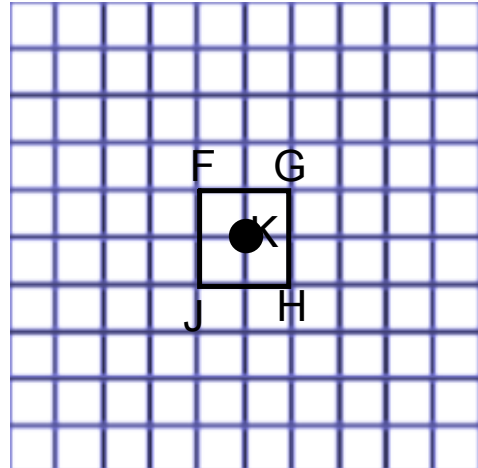
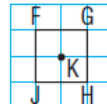
a) rectangle ABCD

- i)  $180^\circ$  about vertex A (Blue)
- ii)  $180^\circ$  about centre E (Red)



b) square FGHI counterclockwise through

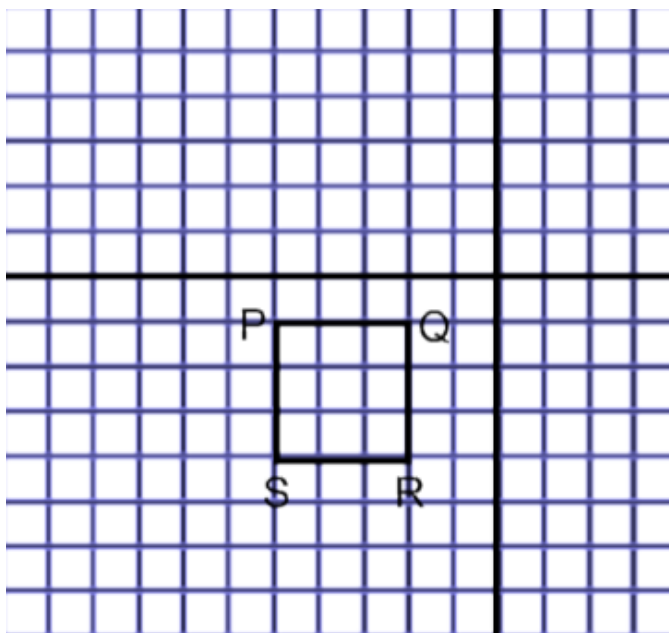
- i)  $90^\circ$  about vertex F (Blue)
- ii)  $90^\circ$  about centre K (Red)



14. a) Rotate square PQRS clockwise about vertex P through:

- i)  $90^\circ$  (Blue)
- ii)  $180^\circ$  (Red)
- iii)  $270^\circ$  (Yellow)

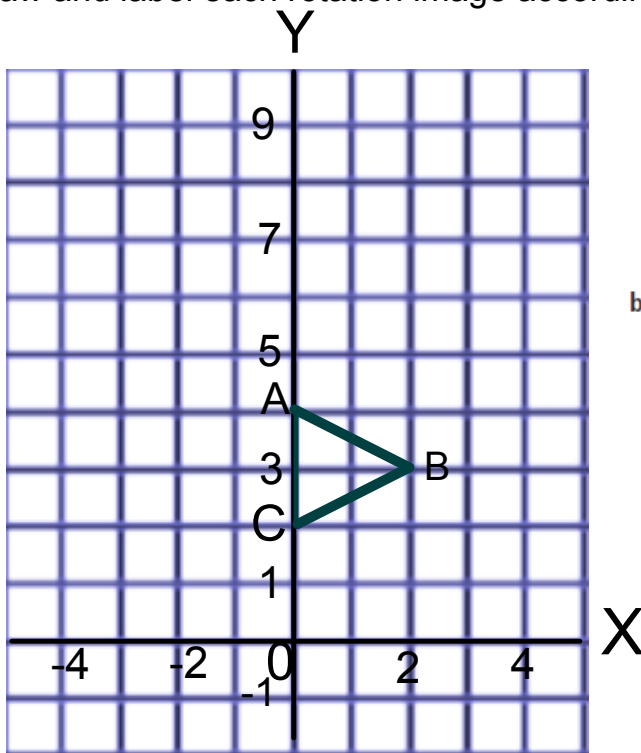
Draw and label each rotation image according to color.



15. Triangle ABC is part of a larger shape that is to be completed by three rotations.

- a) Rotate  $\triangle ABC$  clockwise about vertex C through: i)  $90^\circ$  (Blue) ii)  $180^\circ$  (Red) iii)  $270^\circ$  (Yellow)

Draw and label each rotation image according to color.



- b) List the coordinates of the vertices of the larger shape formed by the triangle and its images. Describe any rotational symmetry.