

Classwork 20.



- An object has reflectional symmetry (line or mirror symmetry) if there is a line (or in 3D a plane) going through it which divides it into two pieces that are mirror images of each other.
- An object has rotational symmetry if the object can be rotated about a fixed point (or in 3D about a line) without changing the overall shape.
- An object has translational symmetry if it can be translated (moving every point of the object by the same distance) without changing its overall shape.

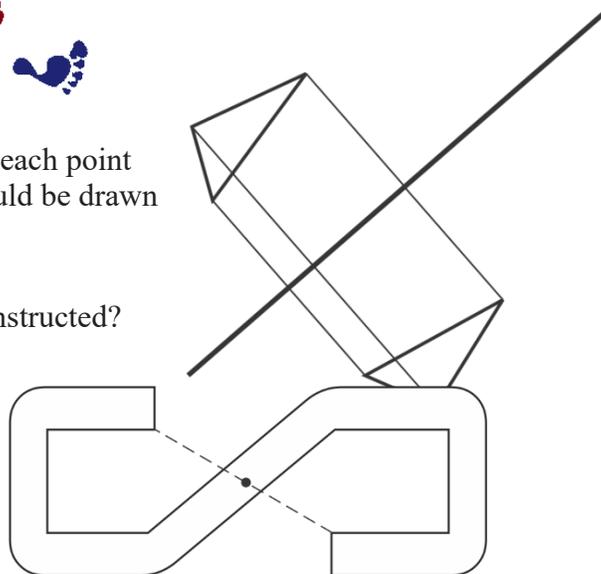
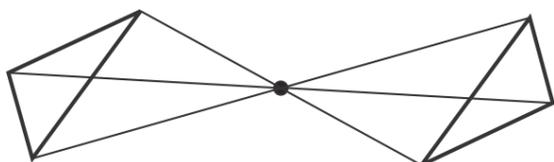


- Glide reflection symmetry: a reflection followed by a translation.



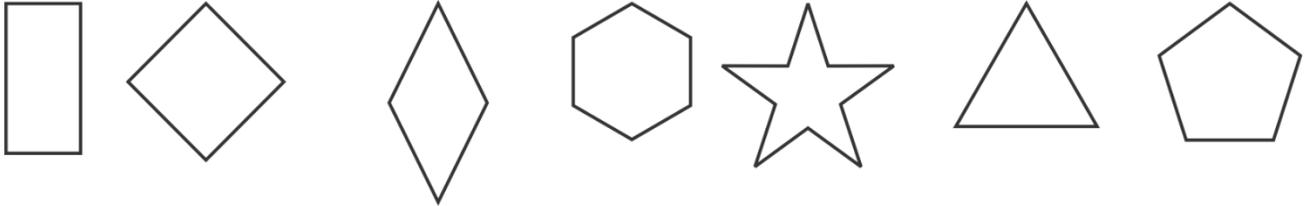
How to construct the mirror image of the shape? From each point of the shape perpendicular to the line of symmetry should be drawn and continued to the same distance.

How the point symmetry image of the shape can be constructed?



Point symmetry is also a rotational symmetry on 180° .

How many axes of symmetry and what rotational symmetry do the figures in the picture have?



How do you write your name that it can be seen in the mirror?

WAVY
MARY YRAM

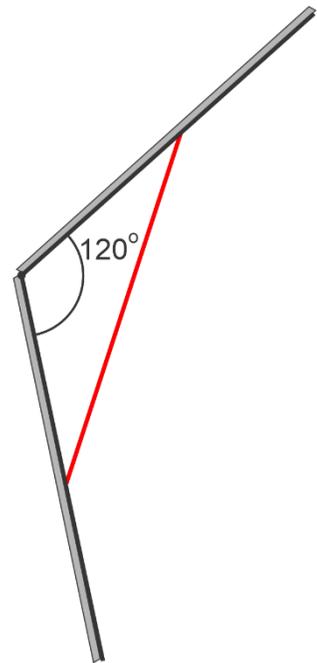
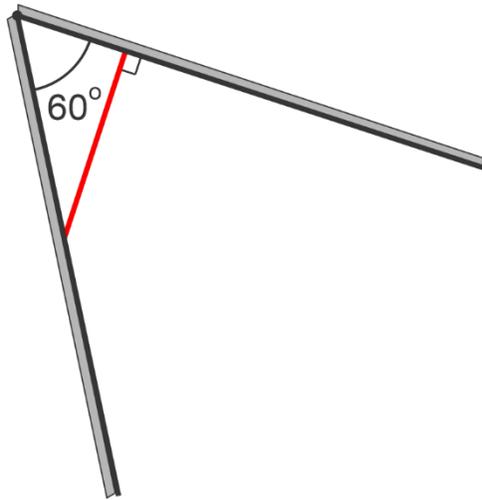
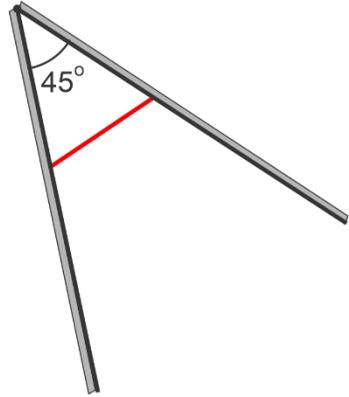
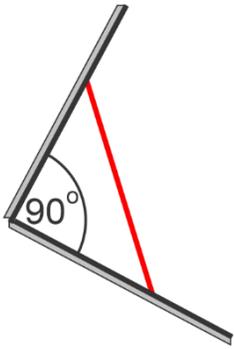
A B C D E F G H I J

K L M N O P Q R S T

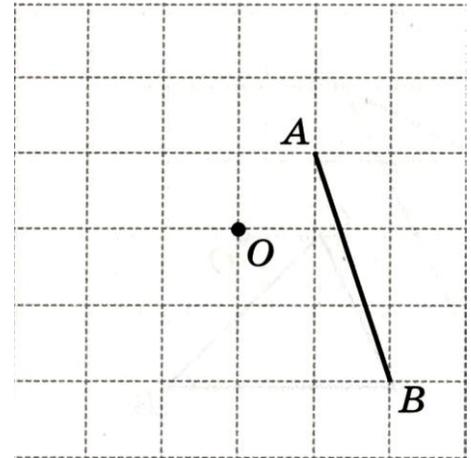
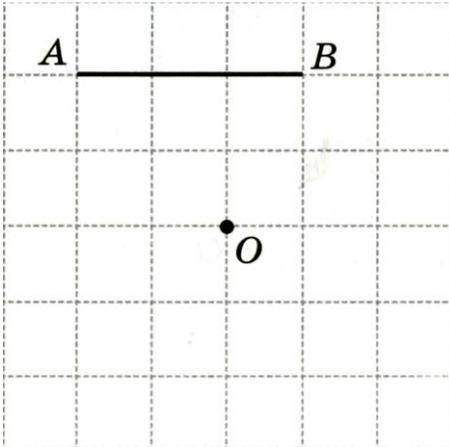
U V W X Y Z

0 1 2 3 4 5 6 7 8 9

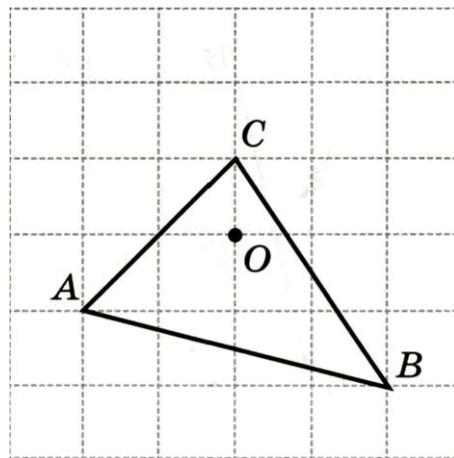
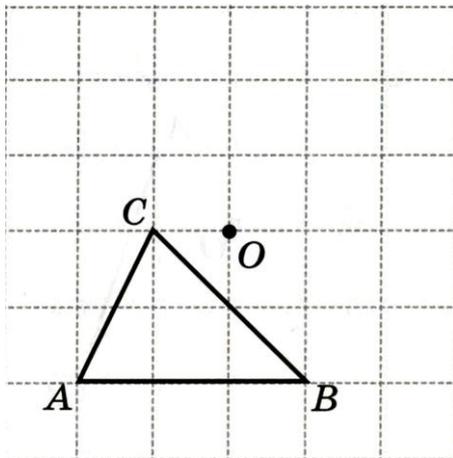
What symmetry do the letters of the alphabet have?



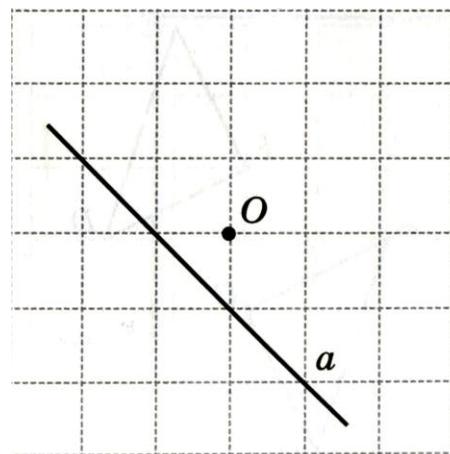
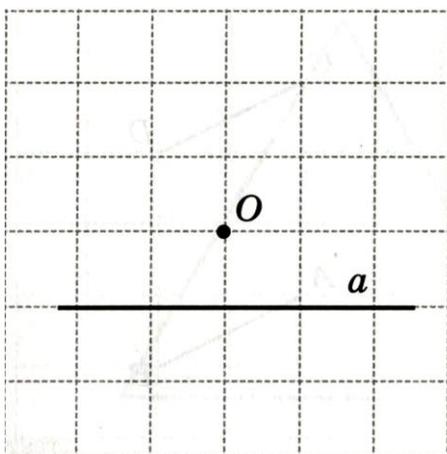
Draw a line segment that is symmetric to the given segment AB with respect to point O .



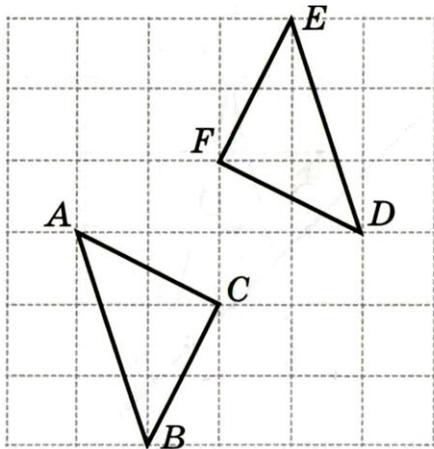
Draw a triangle that is symmetric to the given triangle with respect to point O .



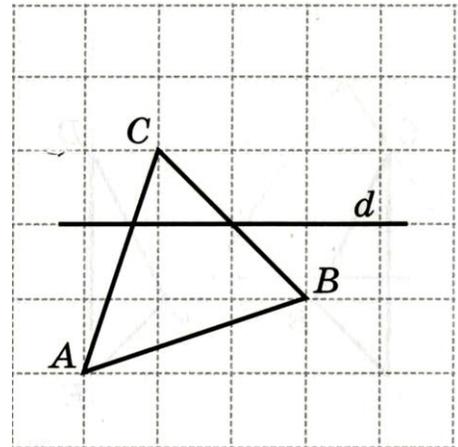
Draw a line that is symmetric to the given line with respect to point O .



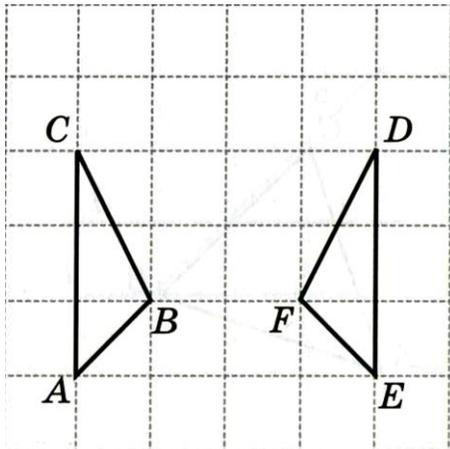
Triangles ABC and DEF are centrally symmetric. Indicate (identify) the center of symmetry.



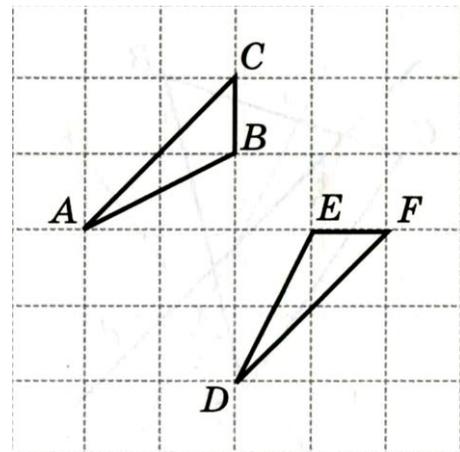
Draw a triangle that is symmetric to the given line d .



Triangles ABC and DEF are mirror-symmetric. Indicate the line of symmetry.



Indicate the line of symmetry.



Draw a triangle obtained by rotating a given triangle ABC around point O by an angle of 90° counterclockwise. Triangle DEF was obtained by rotating triangle ABC by an angle of 180° counterclockwise. Identify the center of rotation.

