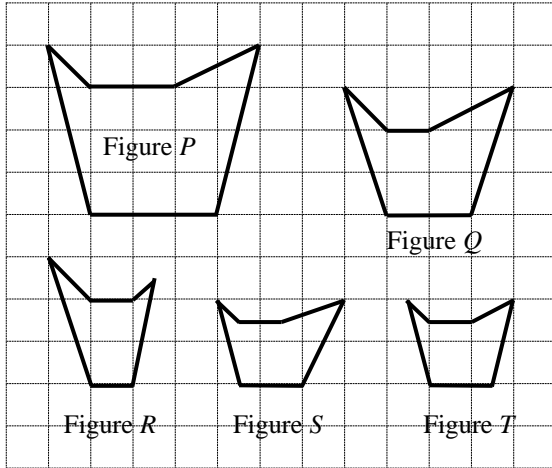


## TB(1A) Ch. 7 Symmetry and Transformation

### Multiple Choice Questions

**1. [11-12 Standardized Test 2 Q1]**

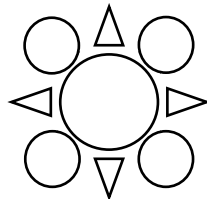
Which of the following is the image of Figure *P* after reducing it by a scale factor of 0.5?



- A. Figure *Q*
- B. Figure *R*
- C. Figure *S*
- D. Figure *T*

**2. [11-12 Standardized Test 2 Q3]**

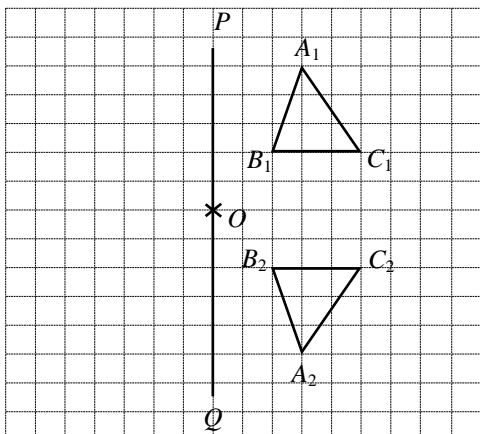
The following figure has *x* axes of symmetry and *y*-fold rotational symmetry. What are the values *x* and *y*?



- A.  $x = 4, y = 4$
- B.  $x = 6, y = 8$
- C.  $x = 8, y = 6$
- D.  $x = 8, y = 8$

**3. [11-12 Standardized Test 2 Q9]**

In order to obtain the image  $\Delta A_2B_2C_2$ , which of the following are the transformations that  $\Delta A_1B_1C_1$  has to undergo?



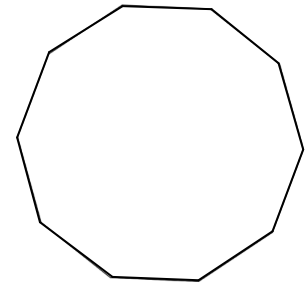
First transformation                      Second transformation

- A. Reflect about *PQ*                      Rotate clockwise about *O* through  $180^\circ$
- B. Translate downwards by 7 units                      Reflect about *PQ*
- C. Translate downwards by 10 units                      Rotate anti-clockwise about *O* through  $180^\circ$
- D. Rotate clockwise about *O* through  $90^\circ$                       Translate downwards by 3 units

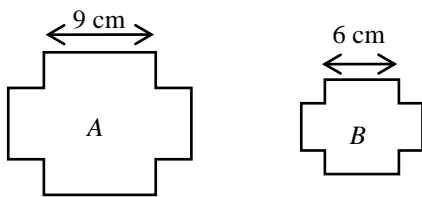
4. [11-12 Final Exam Q8]

The figure shows a regular decagon. Which of the following are correct?

- I. The order of the rotational symmetry is 12.
  - II. It has 10 axes of symmetry.
  - III. It has both reflectional and rotational symmetry.
- A. I and II only
  - B. I and III only
  - C. II and III only
  - D. I, II and III



5. [12-13 Standardized Test 2 Q1]

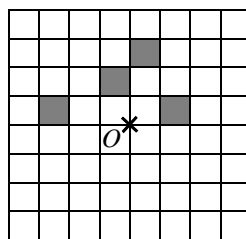


In the figure, polygon A is reduced to polygon B by the scale factor of

- A.  $\frac{2}{3}$ .
- B.  $\frac{3}{2}$ .
- C. 6.
- D. 9.

6. [12-13 Standardized Test 2 Q5]

What is the least number of squares to be shaded so that the following figure has 4-fold rotational symmetry by taking O as the centre of rotation?

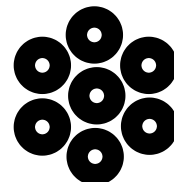


- A. 2
- B. 4
- C. 8
- D. 12

7. [12-13 Final Exam, 5]

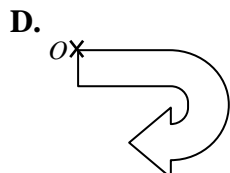
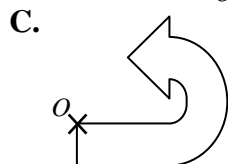
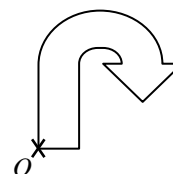
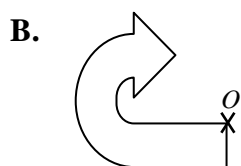
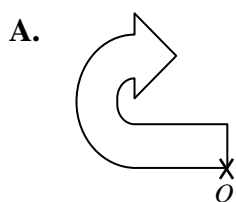
In the figure, the number of axis of symmetry is  $x$  and the order of rotational symmetry is  $y$ . What are the values of  $x$  and  $y$ ?

- A.  $x = 3, y = 3$
- B.  $x = 3, y = 6$
- C.  $x = 6, y = 3$
- D.  $x = 6, y = 6$



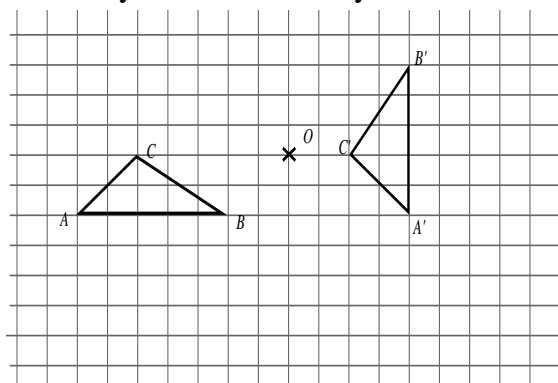
8. [13-14 Standardized Test 2 Q2]

Which of the following images will be obtained when the figure is rotated anti-clockwise about  $O$  through  $90^\circ$  ?



9. [13-14 Standardized Test 2 Q7]

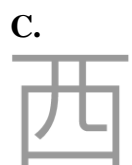
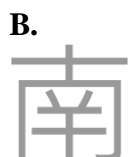
Which of the followings correctly describes the way of transforming  $\triangle ABC$  to  $\triangle A'B'C'$ ?



- A. Rotate clockwise about  $O$  through  $90^\circ$ .
- B. Rotate anti-clockwise about  $O$  through  $90^\circ$ .
- C. Move 2 units to the right and 2 units downwards, then rotate clockwise about  $O$  through  $90^\circ$ .
- D. Move 5 units to the right and 2 units downwards, then rotate anti-clockwise about  $O$  through  $90^\circ$ .

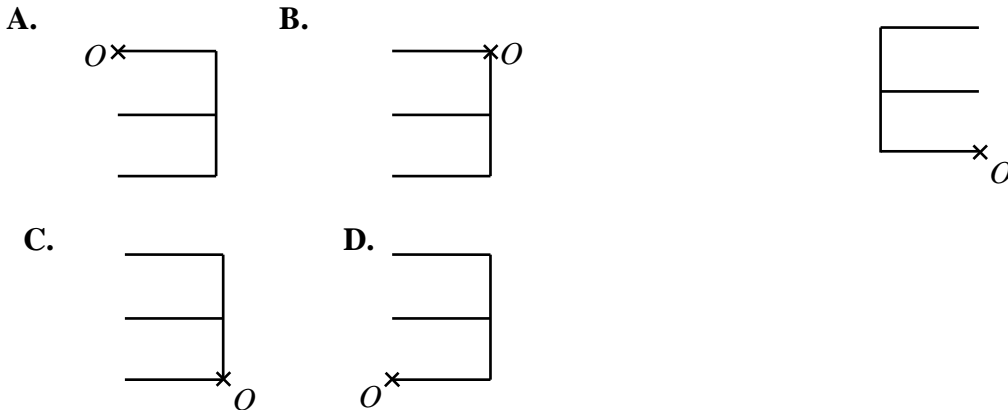
10. [14-15 Standardized Test Q1]

Which of the following Chinese character has reflectional symmetry?



11. [14-15 Standardized Test Q2]

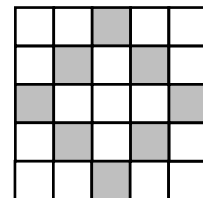
If the figure below is rotated about  $O$  through  $180^\circ$ , which of the following is its image?



12. [14-15 Final Exam Q5]

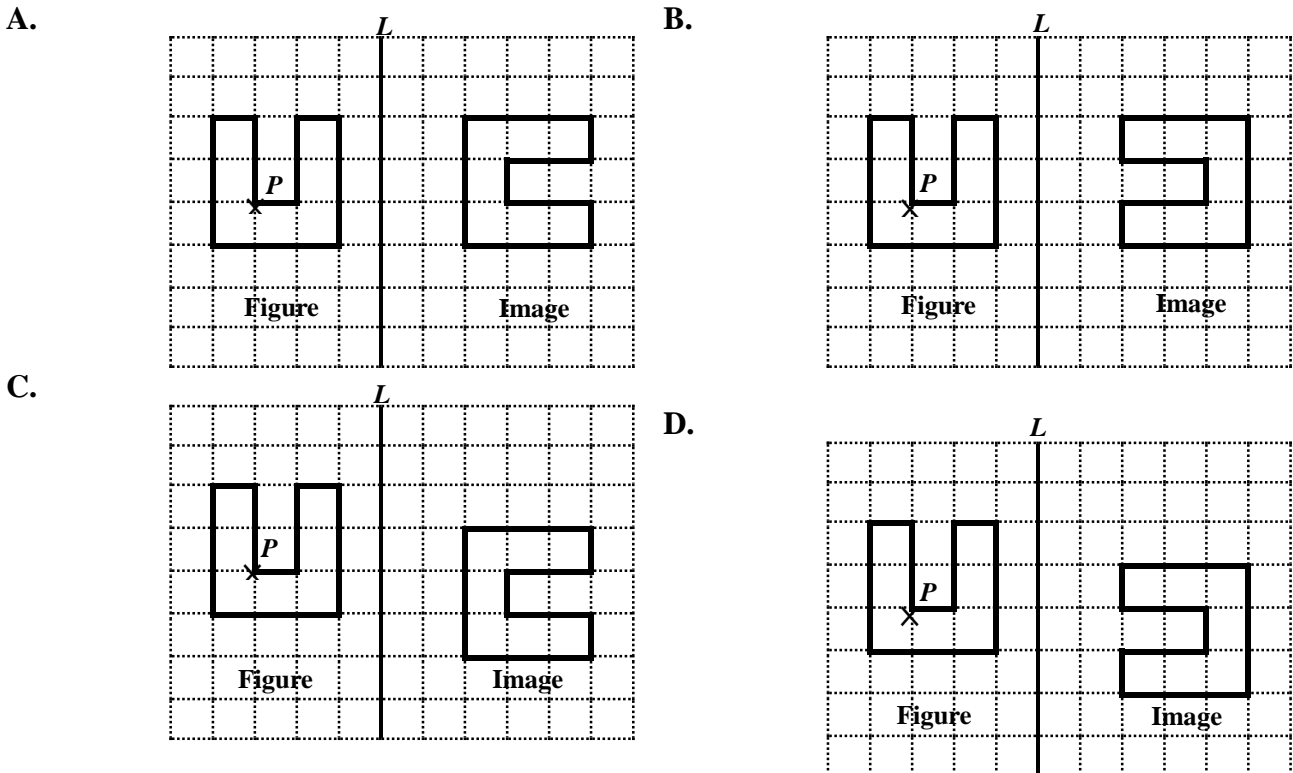
In the figure, a square is divided into 25 small identical squares and 8 of them are shaded. Find the order of rotational symmetry of the whole figure.

- A. 2
- B. 4
- C. 6
- D. 8



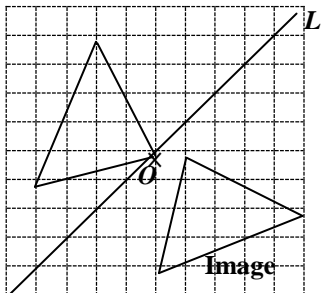
13. [14-15 Final Exam Q17]

Which of the following figures shows the transformation “Rotate anti-clockwise through  $90^\circ$  about point  $P$ , and then reflects along  $L$ ” correctly?



**14. [15-16 Final Exam, #18]**

The figure shows a triangle and its image. Which of the following statements correctly describes the transformation?



- A. The figure is reflected about line  $L$  and then translated 1 unit downwards.
- B. The figure is translated 1 unit to the left and then rotated through  $180^\circ$  about  $O$ .
- C. The figure is translated 1 unit upwards and then reflected about line  $L$ .
- D. The figure is rotated through  $180^\circ$  about  $O$  and then translated 1 unit to the right.

~ End ~