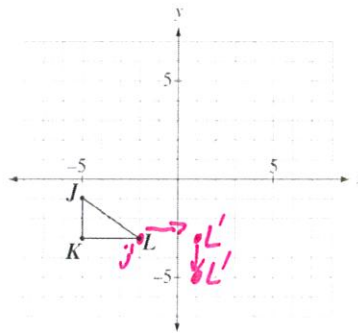


Use the following diagram to answer question 3.

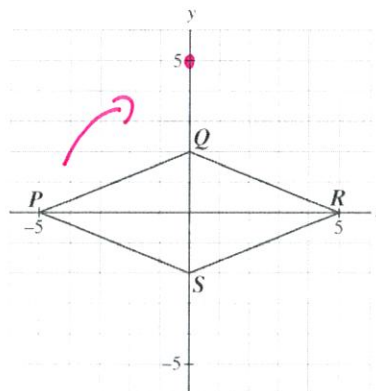
The triangle  $JKL$  shown below undergoes the translation  $(x, y) \rightarrow (x + 3, y - 2)$ .



3. Which of the following rows represents the coordinates of the resulting image?

Row	J'	K'	L'
<del>A.</del>	(-2, -3)	(-2, -5)	(-1, 5)
<b>B.</b>	(-2, -3)	(-2, -5)	(1, -5)
<del>C.</del>	(-8, -3)	(-8, -1)	(-5, 1)
<del>D.</del>	(-8, -3)	(-8, -1)	(5, -1)

Use the following diagram to answer question 16.



16. If the shape shown above is rotated 90 degrees clockwise about the origin to form the quadrilateral  $P'Q'R'S'$ , then  $P'$  would be located at
- A. (5, 0)
  - B. (0, 5)**
  - C. (0, -5)
  - D. (-5, 0)

20. Which of the following diagrams illustrates a  $90^\circ$  rotation of triangle  $XYZ$  counter-clockwise about the origin?

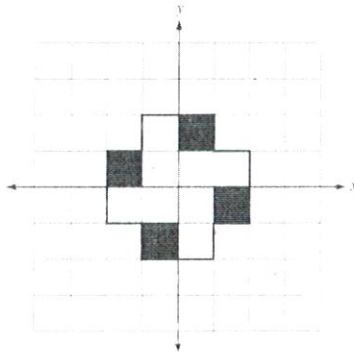
A.

B.

C.

D.

Use the following information to answer question 24.

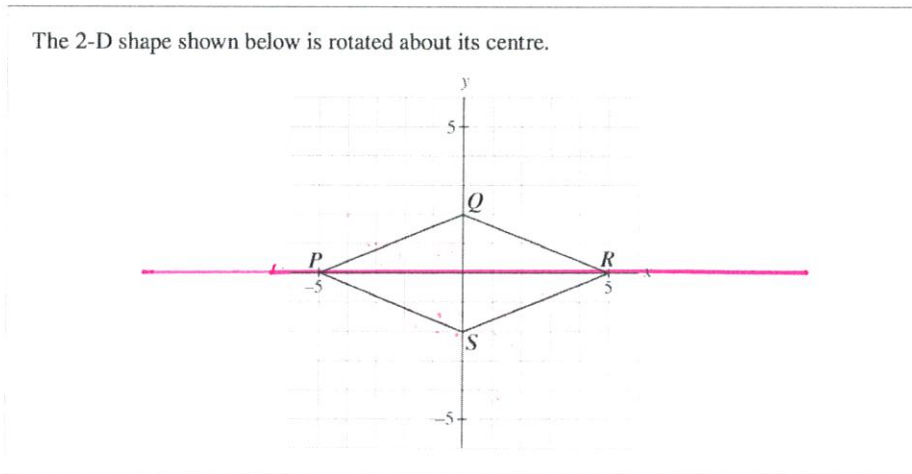


24. The shape shown above has rotational symmetry of order   i  , and   ii   lines of symmetry.

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	2	0
B.	2	2
<b>C.</b>	4	0
	4	2

Use the following information to answer question 2.



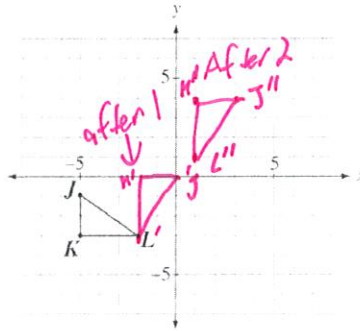
2. What are the order of rotational symmetry and the angle of rotation of the 2-D shape?

Row	Order of rotational symmetry	Angle of rotation
A.	1	180°
B.	1	360°
C.	2	180°
D.	2	360°

Use the following information to answer question 33.

Triangle  $JKL$ , shown below, undergoes the following transformations:

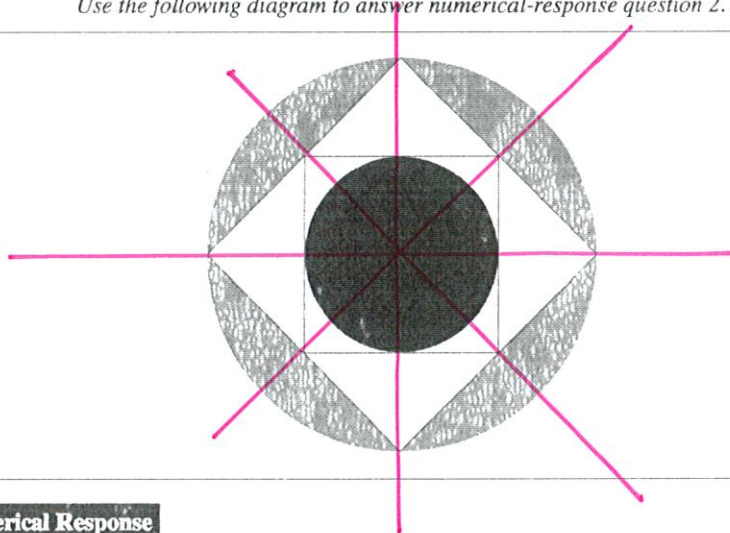
- 1 • a  $90^\circ$  clockwise rotation about vertex  $L$
- 2 • a translation of 3 units right and 4 units up



33. Which of the following rows represents the ordered pair for each vertex after both the transformations described above have been completed?

Row	$J''$	$K''$	$L''$
<b>A.</b>	(1, 1)	(1, 4)	(3, 4)
B.	(1, 1)	(1, -2)	(-1, -2)
C.	(4, 3)	(2, 3)	(2, 0)
D.	(3, 4)	(1, 4)	(1, 1)

Use the following diagram to answer numerical-response question 2.



**Numerical Response**

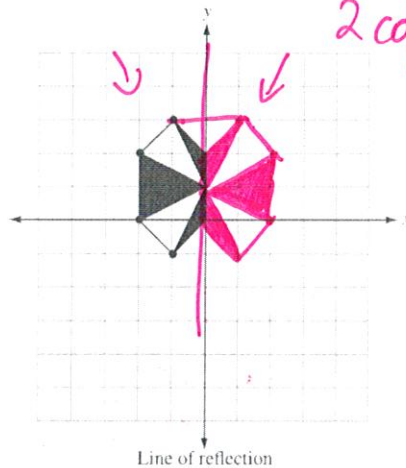
2. How many lines of symmetry does the diagram shown above have?

Answer: 4 lines

(Record your answer in the numerical-response section on the answer sheet.)

Use the following information to answer question 32.

The 2-D shape shown on the Cartesian plane below is reflected about the y-axis.



2 copies of same shape

$$\frac{360}{2} = 180$$

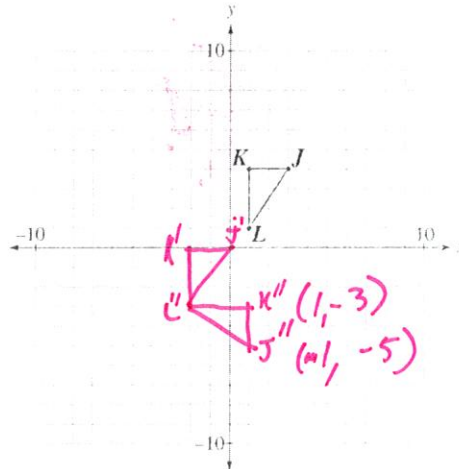
32. If the original 2-D shape and the reflected image combine to form a new 2-D shape, what is the angle of rotational symmetry of the new 2-D shape?

- A. 90°
- B. 180°**
- C. 270°
- D. 360°

Use the following information to answer question 38.

Triangle  $JKL$ , shown below, undergoes the following transformations:

- a translation of 3 units left and 4 units down, followed by
- a  $90^\circ$  clockwise rotation about vertex  $L'$

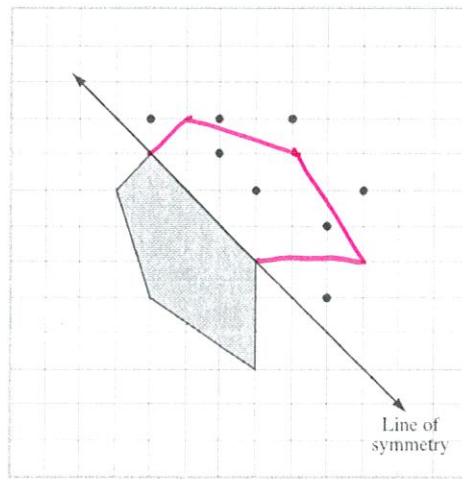


38. Which of the following rows represents the ordered pair for each vertex after **both** the transformations described above have been completed?

Row	$J''$	$K''$	$L''$
<b>A.</b>	(1, -5)	(1, -3)	(-2, -3)
<b>B.</b>	(-5, -1)	(-5, -3)	(-2, -3)
<b>C.</b>	(0, -4)	(0, -2)	<del>(-3, -2)</del>
<b>D.</b>	(-2, -3)	(1, -3)	<del>(1, -5)</del>

Use the following information to answer numerical-response question 4.

An incomplete 2-D shape and its line of symmetry are shown in the diagram below.



### Numerical Response

4. When the 2-D shape is completely drawn, how many points will be inside the 2-D shape?

Answer: 3

(Record your answer in the numerical-response section on the answer sheet.)