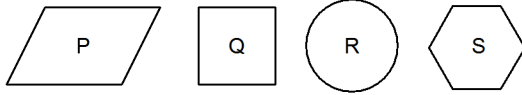


Math 9: Chapter 7.5 - 7.7 Review Assignment

Multiple Choice

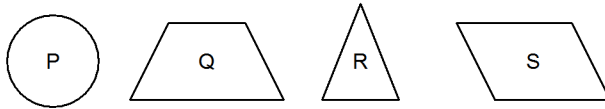
Identify the choice that best completes the statement or answers the question.

_____ 1. Which shapes have at least 2 lines of symmetry?



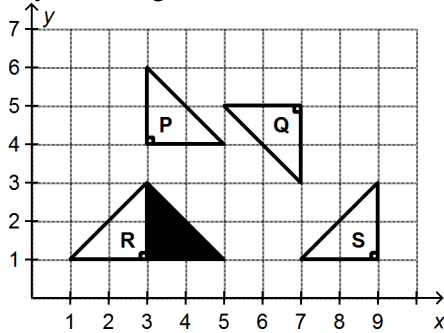
- a. Shapes P, Q, S
- b. Shapes P, S
- c. Shapes Q, R, S
- d. Shapes P, Q, R, S

_____ 2. Which shapes have exactly one line of symmetry?



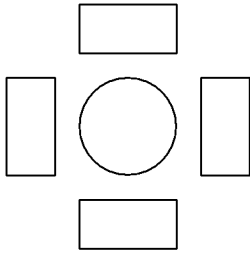
- a. Shapes P, Q, R, S
- b. Shapes P, S
- c. Shapes Q, R
- d. Shapes P, Q, R

_____ 3. Identify the triangles that are related to the black triangle by a line of reflection.



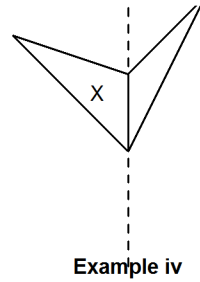
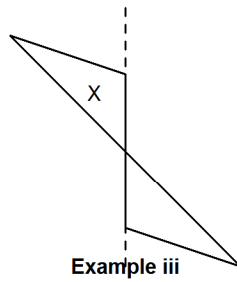
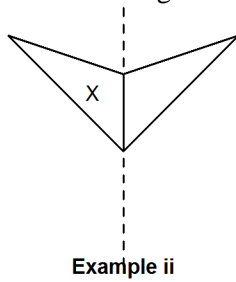
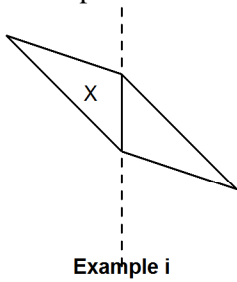
- a. Triangles P, Q, R, S
- b. Triangles Q, R
- c. Triangles R, S
- d. Triangles Q, R, S

___ 4. How many lines of symmetry does this design have?



- a. 1 b. 6 c. 4 d. 2

___ 5. Which example shows a reflection of triangle X in the dotted line?



- a. Example i b. Example iii c. Example iv d. Example ii

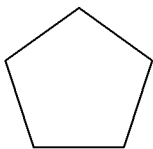
___ 6. What is the angle of rotation symmetry for a shape that has rotational symmetry of order 6?

- a. 180° b. 120° c. 60° d. 100°

___ 7. The angle of rotation symmetry for a shape is 60° . What is the order of rotational symmetry?

- a. 8 b. 4 c. 3 d. 6

___ 8. What is the order of rotational symmetry and angle of rotation symmetry for this regular pentagon?

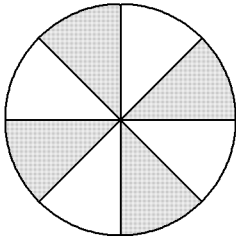


- a. 5; 75° b. 6; 120° c. 5; 72° d. 5; 54°

Name: _____

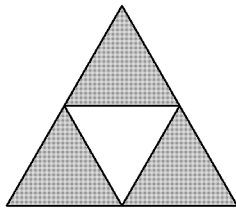
ID: A

___ 9. What is the order of rotational symmetry and angle of rotation symmetry for this design?



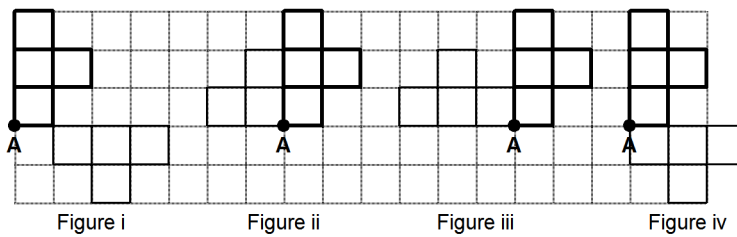
- a. 4; 90° b. 6; 120° c. 8; 60° d. 8; 45°

___ 10. What is the order of rotational symmetry and angle of rotation symmetry for this design?



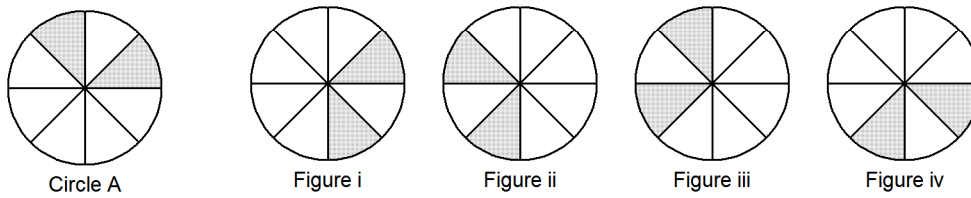
- a. 3; 120° b. 5; 72° c. 4; 90° d. 3; 180°

___ 11. Which figure shows a 90° clockwise rotation about point A?



- a. Figure iii b. Figure ii c. Figure iv d. Figure i

___ 12. Which figure shows the rotation image of circle A after a 135° counterclockwise rotation about its centre?



- a. Figure iv b. Figure i c. Figure iii d. Figure ii

___ 13. Describe the rotational symmetry and line symmetry of this parallelogram.



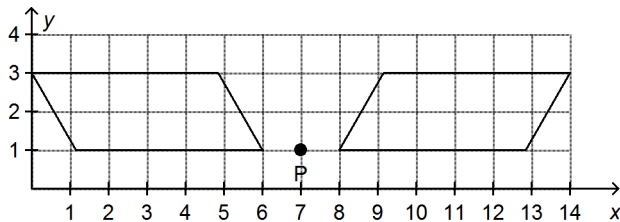
- a. Rotational symmetry of order 2 about the centre; no line symmetry
 b. Rotational symmetry of order 2 about the centre; 1 line of symmetry through the centre
 c. Rotational symmetry of order 1 about the centre; 1 line of symmetry through the centre
 d. No rotational symmetry; no line symmetry

___ 14. Which of the following letters have both rotational symmetry and line symmetry?



- a. H, O, X b. K, H, X c. N, H, X d. S, H, O, X

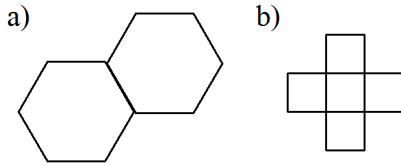
___ 15. Determine whether the two parallelograms are related by line symmetry, by rotational symmetry about point P, by both types of symmetry, or by neither.



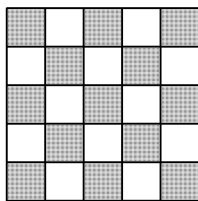
- a. Rotational symmetry c. Line symmetry
 b. Neither d. Rotational symmetry and line symmetry

Short Answer

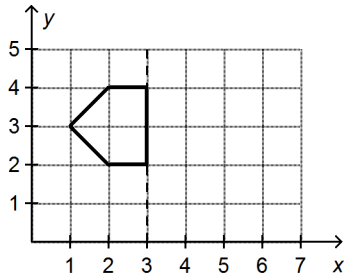
16. State the number of lines of symmetry in each design.



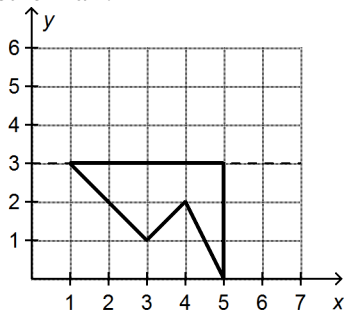
17. Draw the lines of symmetry in this tessellation.



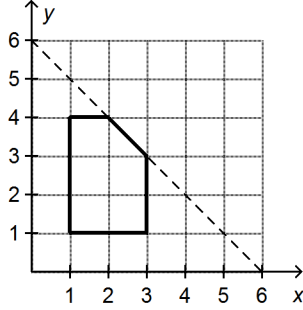
18. This polygon is one-half of a shape. Use the dotted line as a line of symmetry to complete the shape by drawing its other half.



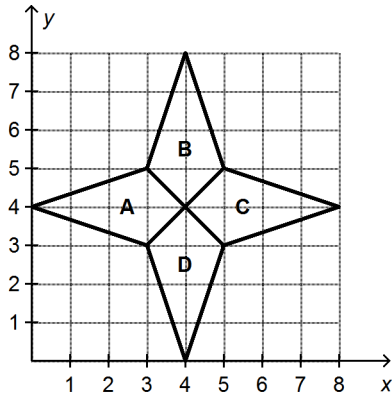
19. This polygon is one-half of a shape. Use the dotted line as a line of symmetry to complete the shape by drawing its other half.



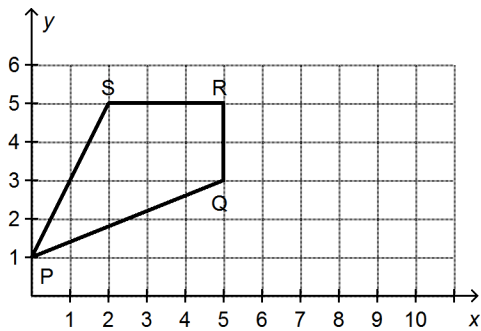
20. This polygon is one-half of a shape. Use the dotted line as a line of symmetry to complete the shape by drawing its other half.



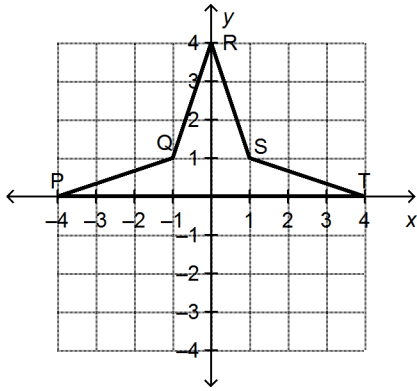
21. This design was created by reflecting quadrilateral A to create quadrilaterals B, C, and D. Describe the reflections.



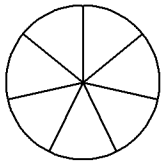
22. This polygon is one-half of a shape. Use a vertical line through 5 on the x -axis as a line of symmetry to complete the shape by drawing its other half. Write the coordinates of the larger shape formed by PQRS and its image.



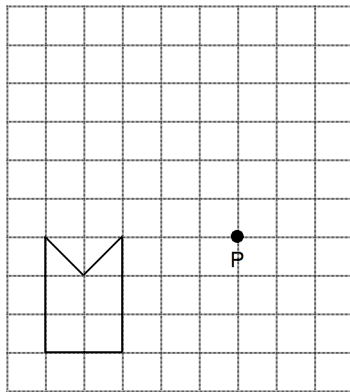
23. Polygon PQRST is part of a larger shape.
 a) Draw the image of polygon PQRST after a reflection in the x -axis.
 b) How many lines of symmetry does the larger shape have?



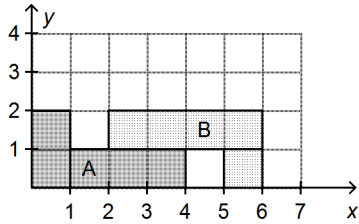
24. What is the order of rotational symmetry for this design?



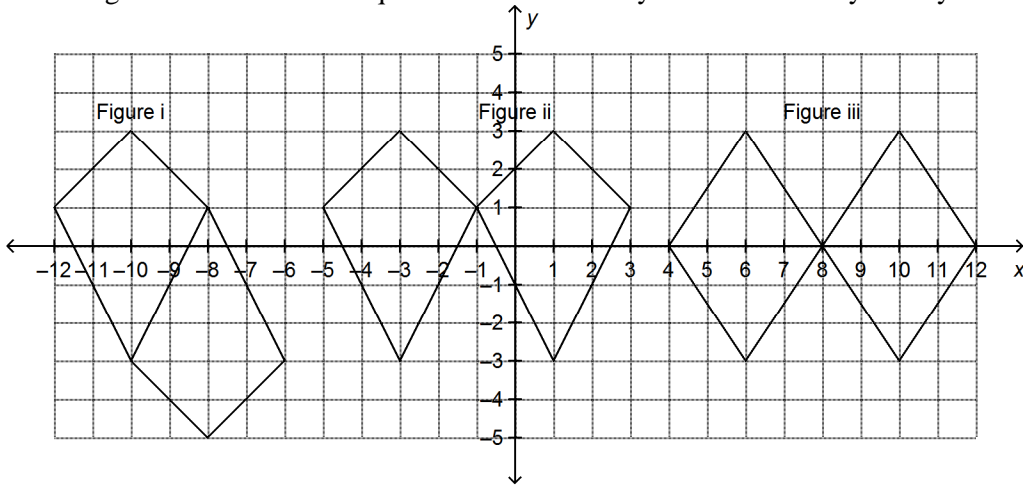
25. Draw the rotation image after rotating the shape 90° clockwise about P.



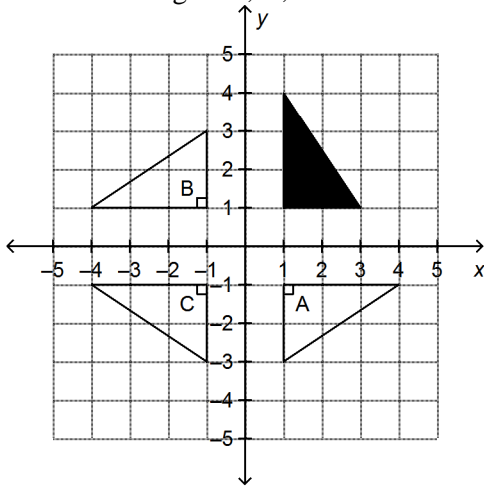
26. Hexagon B is the rotation image of hexagon A. Describe the rotation.



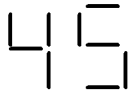
27. Which figure below shows two quadrilaterals related by both rotational symmetry and line symmetry?



28. Which of triangles A, B, and C are related to the shaded triangle by rotational symmetry about the origin?

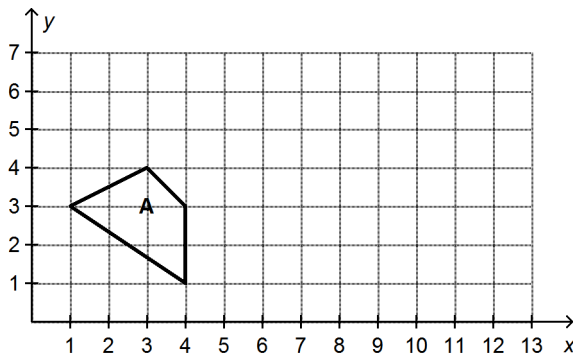


29. Marleesa says these digits do not have line symmetry or rotational symmetry. Is she correct? If not, explain her mistake.

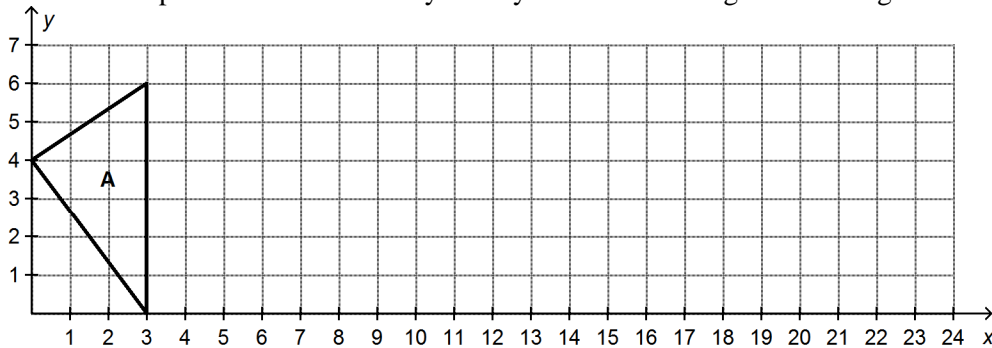


Problem

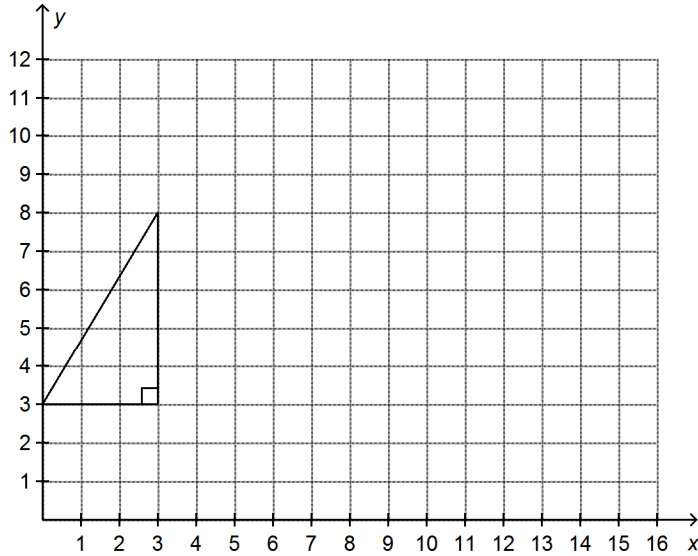
30. a) Reflect shape A in the oblique line through (0, 7) and (7, 0). Label the image shape B.
 b) Reflect shape B in the vertical line through 6 on the x -axis. Label the image shape C.
 c) Reflect shape C in the oblique line through (5, 0) and (12, 7). Label the image shape D.



31. a) Reflect triangle A in the vertical line through 4 on the x -axis. Label the image triangle B.
 b) Reflect triangle B in the vertical line through 10 on the x -axis. Label the image triangle C.
 c) Reflect triangle C in the vertical line through 17 on the x -axis. Label the image triangle D.
 d) Describe the position of the line of symmetry that relates triangle A to triangle D.



32. a) Rotate this triangle 90° clockwise about the point $(3, 3)$. Draw the rotation image.
 b) Outline the shape formed by the triangle and its image. Rotate this shape 270° counterclockwise about the point $(8, 3)$.
 c) Does the final shape have rotational symmetry? Explain.



33. a) Which of the following letters have vertical line symmetry?

C E H I K O X

- b) Use any letters above to make 2 words that have horizontal line symmetry. You can use a letter more than once.