12 Practice Test

For #1 to #4, circle the best answer.

- 1. Which regular polygon cannot be used to tile a plane?
 - A square
 B triangle

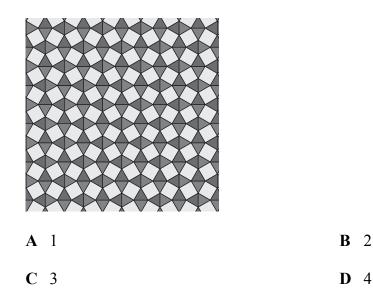
 C hexagon
 D pentagon

2. Polygons can be used to make a tessellation.

The interior angles must add up to ______° where the vertices of the polygons meet.

- **A** 90° **B** 180°
- **C** 270° **D** 360°
- 3. Which polygon can be used to make a tessellation?
 - A regular pentagon
 B regular hexagon

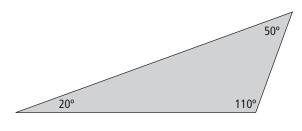
 C regular heptagon
 D regular octagon
- 4. How many different polygons were used to make this design?



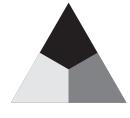
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Short Answer

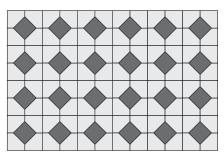
- 5. Decide if each statement is true or false. Circle TRUE or FALSE. If the statement is false, rewrite it to make it true.
 - a) Tessellations need more than 2 polygons to make a design. TRUE or FALSE
 - **b)** Tessellations can be made if the interior angles of the polygons equal exactly 360° where the polygons meet. TRUE or FALSE
 - c) Rotations cannot be used to make tessellations. TRUE or FALSE
- 6. Can Jamie make a tessellation using this triangle? Circle YES or NO. Explain your answer.



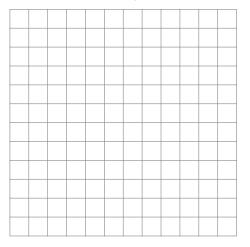
- 7. a) What type of polygon is used to make this design? Circle PARALLELOGRAM or RECTANGLE or QUADRILATERAL.
 - **b)** What transformation is used in the pattern?



8. Describe how you would make this tessellation.



9. Make an Escher-style tessellation using an equilateral triangle or a square.



WRAP IT UP!

You are going to make a mosaic design to hang in your room. You must include at least 2 different shapes and 1 transformation.

a) Shape 1: _____

- b) Type of transformation: _____
- c) List the materials you will need to make your pattern.

Examples: coloured construction paper, coloured transparencies, tile pieces, grid paper, paints.

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d) Make your mosaic design on a separate sheet of paper.

- e) After you have completed your design, write a short paragraph about it on a separate sheet of paper.
 - Describe the different shapes and transformations you used to make your mosaic.
 - Explain why you chose the shapes, transformation, materials, and colours that you used.