

NAME _____

Module 11 Transformation of Shapes
Lesson 5 Tessellations

Lesson Objectives

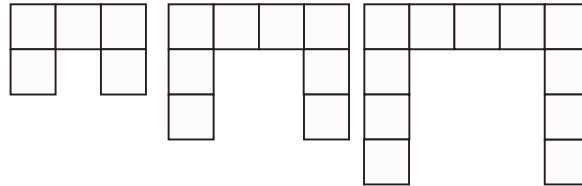
- Analyze geometric patterns (e.g., tessellations, sequences of shapes) and develop descriptions of the patterns.
- Use tessellations and fractals to create geometric patterns.

Subtopic 1 Geometric Patterns

Geometric Patterns

- _____ the pattern.
- Write a _____ or describe the pattern.
- Use the rule to find the _____.

1 How many squares are in the 7th term of the sequence?

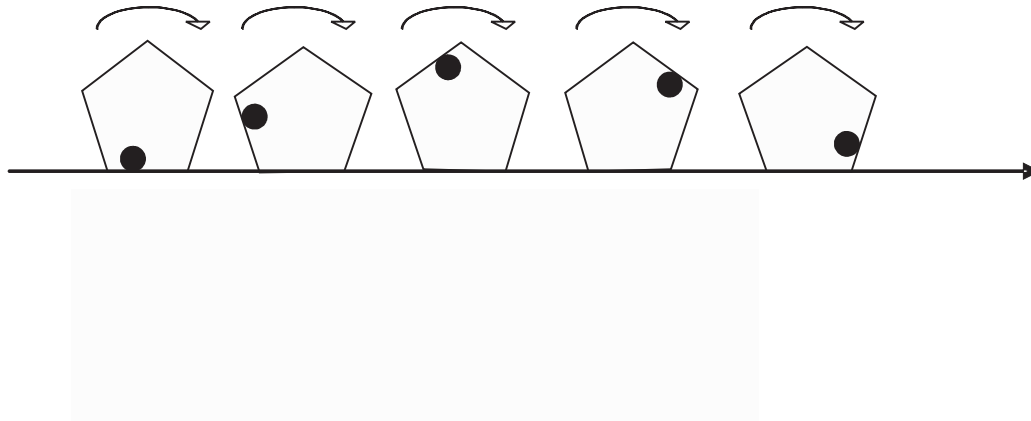


2 What is the 31st term in this sequence?



3

The diagram shows the first five stages as a pentagonal figure is rolled along a flat surface. Draw the figure in the 38th stage.



Subtopic 2 Tessellations

A tessellation is a _____ of plane figures that completely covers a plane with no _____ or overlaps.

A _____ tessellation has a repeating pattern of congruent regular polygons.

_____ tessellations are tessellations of more than one type of regular polygon where the arrangement of each vertex is the same.

Create a tessellation:

- Locate _____ of one side.
- Rotate _____ about that point.
- Translate quadrilateral pairs.

Create a tessellation:

- Begin with polygon that tessellates.
- Connect midpoint to endpoint with _____.
- Rotate new edge 180° .
- _____ and translate.

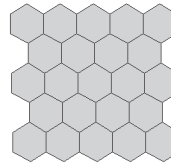
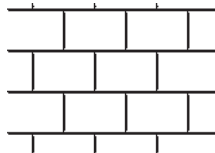
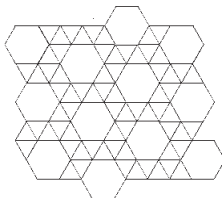
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Create a tessellation:

- Begin with a polygon that tessellates.
- Draw new edge for one side.
- Copy edge to _____ side.
- Repeat for other pair of sides.
- _____ to tessellate.

4 Tell whether each tessellation is regular, semi-regular, or neither.



5 Use the triangle to make a tessellation.



6 Use the set of regular polygons to make a semi-regular tessellation.





Use the quadrilateral to create a tessellation.

