

Lesson 10-5 • Group 2

Reinforce Understanding**10.5 Small Group • Group 2**

I can create and describe geometric designs using repetition, patterns, and rhythm, and use a pattern unit to predict what comes next, explain how I can tell, and judge a case I have not seen before.

Worked model

A border repeats: pink circle, purple square, blue triangle, pink circle, purple square, blue triangle, ...

1. The pattern unit is 3 shapes long: circle, square, triangle.
2. To predict shape number 12, I divide: $12 \div 3 = 4$ with no remainder, so shape 12 ends a complete unit — it is the blue triangle.
3. The next three shapes after any complete unit will be a pink circle, a purple square, and a blue triangle.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. The border pattern repeats circle, square, triangle. Name the shape at each position.

Complete the table. Show how you found each value.

Position number	Thinking with the unit of 3	Shape
7		
12		
20		

Show your work

2. Match each vertex arrangement to its angle sum — and what it means for tessellation.

Write the letter of the matching item on each line.

1. _____ 4 squares at a vertex
 2. _____ 6 equilateral triangles at a vertex
 3. _____ 3 regular hexagons at a vertex
 4. _____ 3 regular pentagons at a vertex
- $A4 \times 90^\circ = 360^\circ$ — no gaps
 - $B6 \times 60^\circ = 360^\circ$ — no gaps
 - $C3 \times 120^\circ = 360^\circ$ — no gaps
 - $D3 \times 108^\circ = 324^\circ$ — a gap remains