

Lesson 10-5

Reinforce Understanding

Math is Boundless

I can create and describe geometric designs using repetition, patterns, and rhythm, and use a pattern unit to predict what comes next.

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. In geometric design, what is repetition?

Circle the letter of the best answer. Show how you know.

- A. A set of different shapes arranged randomly
- B. Shapes that vary in size and order of appearance
- C. Any drawing that uses color
- D. The same object or shape repeated multiple times

Show your work

2. A border shows: pink circle, purple square, blue triangle, pink circle, purple square, blue triangle. What are the next three shapes?

Circle the letter of the best answer. Show how you know.

- A. Blue triangle, purple square, pink circle
- B. Pink circle, purple square, blue triangle
- C. Pink circle, blue triangle, purple square
- D. It is impossible to predict

Show your work

3. In the circle-square-triangle border, how many shapes long is the pattern unit?

Circle the letter of the best answer. Show how you know.

- A. 1 shape
- B. 2 shapes
- C. 3 shapes
- D. 6 shapes

Show your work
