



# Patterns that Repeat

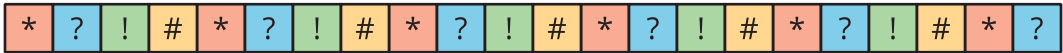
Let's create and describe repeating patterns that follow a given rule.



Warm-up

How Many Do You See: Colorful Tiles

How many tiles do you see? How do you see them?



# Activity 1

## Clare's Pattern

Clare creates a pattern using 3 shapes—a triangle, a circle, and a square—that repeat in that order.

1. Draw the first 10 shapes in Clare's pattern.

2. What do you notice about the first 10 shapes in Clare's pattern?

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3. Clare numbers the shapes 1–10 to show their position in her pattern.

a. What numbers represent the position of the first 5 squares?

b. What else do you notice about the shapes and their numbers?

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4. What is the 31st shape in Clare’s pattern? Explain or show your reasoning.



Activity 2

Generate More Patterns

1. Draw the first 12 shapes for each of these patterns.

a. Pattern A: Repeat circle, square.

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b. Pattern B: Repeat triangle, circle, square.

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c. Pattern C: Repeat circle, triangle, circle, square.

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2. What do you notice about these patterns? Why do you think this happens? Number the shapes if it helps.

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3. What do you predict is the 25th shape in each pattern? Explain how you know.

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4. Kiran creates a pattern with a rule that repeats these 5 shapes.

Repeat triangle, circle, triangle, circle, square.

Kiran draws the first 12 shapes in the pattern.

- a. How many times does his pattern repeat?
- b. What is the 12th shape?
- c. Then he draws the first 24 shapes in the pattern. What would the 24th shape be?

