Pattern Detective

Find the rule and tell what comes next.

2.PFA.1.b · Analyze a repeating or increasing pattern and generalize the change to extend the pattern using objects, pictures, and numbers.

Name _____ Date _____

Spot the Rule

A repeating pattern repeats a core. An increasing pattern has terms that get larger. The number patterns here use a constant addition rule.

Worked example

A toy robot collects 3, 6, 9, 12 bolts. How many bolts will it collect next?

1. 3 + 3 = 6.
2. 6 + 3 = 9.
3. 9 + 3 = 12.
4. 12 + 3 = 15.

15 bolts

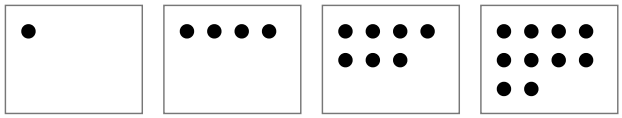
1. Practice

The picture shows a repeating pattern. Draw the next shape and mark one complete core.



2. Practice

The dot groups increase. Draw the next group, write its number, and explain the change.



3. Practice

A puppy gets 1, 7, 13, 19 treats in a pattern. How many treats come next?

4. Practice

The prize bin repeats ball, kite, kite. It shows ball, kite, kite, ball, kite, kite, ___, ___. What are the next two prizes?

5. Practice

A shelf holds 4, 10, 16, 22 toy cars in a pattern. How many toy cars come next?

6. Apply

Noor's weekly reading points follow this pattern: 7, 14, 21. How many points will Noor earn next week?

7. Apply

At a video game club, button lights repeat purple, orange, orange. The lights are purple, orange, orange, purple, orange, orange. What are the next two lights?

8. Challenge

A robot's score pattern is 2, 8, 14, 20, 26. Write the next two scores. Then tell the rule.

What to accept

Accept any clear response format that preserves the correct sequence order. Practice 4 must give ball then kite; Apply 2 must give purple then orange. For the challenge, require 32 then 38 and any clear statement that the pattern adds 6 each time.

1. Practice

Circle; core circle-triangle-triangle.

2. Practice

13 dots; add 3 dots each time.

3. Practice

25 treats

4. Practice

ball, kite

5. Practice

28 toy cars

6. Apply

28 points

The points increase by 7 each week. Add 7 to 21 to get 28.

7. Apply

purple, orange

The repeating group is purple, orange, orange. After orange comes purple, then orange.

8. Challenge

32, 38. Add 6 each time.