Generate and Analyze Number Patterns

1 (MP) **Use Structure** Workers are installing new seats in the football stadium with the team colors. Starting with the first row, every sixth row of seats is red. The other rows are blue. What color is the 35th row? Explain how you know.

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2 **Math on the Spot** John is saving for his trip to see the Alamo. He started with $27 in his savings account. Every week he earns $20 for babysitting. Out of that, he spends $9 and saves the rest. John uses the rule *add 11* to find out how much money he has at the end of each week. What are the first 8 numbers in the pattern?

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Use the rule to write the numbers in the pattern. Then describe another feature of the pattern.

3 Rule: Multiply by 3.   First term: 3

3, _____, _____, _____, _____, _____

_____

4 Rule: Add 27.   First term: 27

27, _____, _____, _____, _____, _____, _____, _____

_____

5 Rule: Divide by 2.   First term: 768

768, _____, _____, _____, _____, _____, _____, _____

_____

Test Prep

6 The first term in a pattern is 427. The pattern follows the rule *subtract 15*. Which number is a term in the pattern?

(A) 417   (B) 402   (C) 352   (D) 327

7 Lisa is knitting stars and moons in her scarf. Every fifth row has moons, starting with the first row. The other rows have stars. Which shape does the 24th row have?

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8 The table shows the first three terms in a pattern. The rule for the pattern is *multiply by 3*. Complete the pattern.

2	6	18			

9 The first term in a pattern is 17. The pattern follows the rule *multiply by 2*. Write the first 5 terms of the pattern. Then describe another feature of the pattern.

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10 The rule for a pattern is *add* 7. The first term is 9. What is the fourth term in the pattern?

(A) 7   (B) 12   (C) 23   (D) 30

Spiral Review

11 Use expanded form to find the product.

$4 \times 746 =$ _____

$5 \times 323 =$ _____

12 Draw a visual model for $19 \div 2$. What is the remainder?

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