ALBERT

Name _____ Date _____

Number Patterns Worksheet

Grade 3 · Common Core 3.OA.D.9

> Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Practice

Builds the skill step by step.

1. What number comes next? 4, 8, 12, 16, ___

2. What number comes next? 45, 40, 35, 30, ___

3. Is 6 × 7 even or odd?

   A. Odd, because 7 is odd

   B. Even, because 7 is even

   C. Even, because 6 × 7 = 42

   D. Odd, because 6 × 7 = 43

4. A pattern starts at 2. The rule is add 3. What is the 5th number in the pattern?

5. Look at the products in the 5s row of the multiplication table: 5, 10, 15, 20, 25, 30... What digit does every product end in?

   A. 0 or 5

   B. 5 only

   C. 0 only

   D. any digit

6. What is the rule for this pattern? 9, 18, 27, 36

   A. add 18

   B. add 9

   C. add 8

   D. multiply by 2

7. Fill in the missing number: 3, 6, ___, 12, 15

8. A pattern goes 4, 8, 12, 16, ... and keeps adding 4. Which number will NOT be in the pattern?

   A. 18

   B. 20

   C. 24

   D. 28

9. A pattern goes 10, 20, 30, ... and keeps adding 10. What is the 7th number?

10. Look at the pattern 2, 4, 6, 8, 10. Which word describes every number in it?

    A. multiples of 3

    B. multiples of 4

    C. even

    D. odd

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On Level

Grade-level practice.

1. Here is the 6s row of the multiplication table. What number is missing?

× 1	× 2	× 3	× 4	× 5
6	12	18	?	30

2. Why is 4 times any number always even?

   A. 4 times a number is the same as 2 times the number plus 2 times the number, and two equal parts make an even number.

   B. Because 4 is less than 10.

   C. Because 4 × 1 = 4.

   D. Because every number is even.

3. A pattern starts at 5. The rule is add 7. What is the 4th number?

4. In the addition table, the doubles are 1 + 1, 2 + 2, 3 + 3, 4 + 4, and so on. What is true about every double?

   A. It is a multiple of 3.

   B. It is even.

   C. It is odd.

   D. It is less than 10.

5. What number comes next? 81, 72, 63, 54, ___

6. Look at these products from the 9s row: 9, 18, 27, 36, 45. Which statement is true for every one of them?

   A. Each product is even.

   B. Each product is odd.

   C. Each product ends in 9.

   D. The digits add up to 9.

7. A pattern starts at 3. The rule is multiply by 2. What is the 4th number?

8. Which number less than 20 is in both the 3s row and the 4s row of the multiplication table?

9. Try 3 × 5, 7 × 9 and 5 × 7. When you multiply two odd numbers, the product is always:

   A. even

   B. 0

   C. odd

   D. a multiple of 10

10. Ella says 5 times an even number always ends in 0. Test her rule: what is 5 × 8?

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Challenge

Multi-step and word problems that stretch it.

1. Jo adds 3 to an odd number. Is the answer even or odd?

   A. always even

   B. always odd

   C. sometimes even and sometimes odd

   D. neither

2. The rule for this pattern is double the number and then add 1. What comes next? 2, 5, 11, 23, ___

3. Why is every product in the 6s row even?

   A. 6 times a number is 3 times the number plus 3 times the number, so it splits into two equal parts.

   B. Because 6 is greater than 5.

   C. Because 6 ends in 6.

   D. Because 6 + 6 = 12.

4. Look at the pattern 1 × 1, 2 × 2, 3 × 3, 4 × 4, 5 × 5. The products are 1, 4, 9, 16, 25. What is the next product?

5. A pattern starts at 3 and keeps adding 4: 3, 7, 11, 15, … Will 42 ever be in the pattern?

   A. Yes, because 42 is a big number.

   B. No, because every number in the pattern is odd.

   C. No, because every number in the pattern is even.

   D. Yes, because 42 is even.

6. In the addition table, row 7 and column 8 give 7 + 8. Row 8 and column ___ gives the same sum. What number goes in the blank?

7. A pattern goes 5, 10, 15, … and keeps adding 5. What is the 10th number?

8. Lia says the sum of two odd numbers is always odd. Which example shows she is wrong?

   A. 3 + 5 = 8

   B. 2 + 4 = 6

   C. 3 + 4 = 7

   D. 1 + 2 = 3

9. A pattern starts at 100 and subtracts 8 each time. What is the first number in the pattern that is less than 70?

10. One of these products is even: 7 × 9 or 7 × 8. What is the even product?