Arithmetic Patterns

Grade 3 Math Worksheet - Challenge Me

Name _____ Date _____

Circle the answer.

1. What are the next two numbers in this pattern?

3 7 11 15 19

23, 27 23, 28 21, 23 22, 25

2. Which number is in both the 4s row and the 6s row?

18 16 24 30

3. Tia says 6 × 7 is odd because 7 is odd. Is she right?

No, 6 × 7 is even because 7 is odd

No, 6 × 7 is even because 6 is even

Yes, an odd factor always makes an odd product

Yes, 6 × 7 is 43, which is odd

4. The digits of a 9s product add to 9. Which number could be in the 9s row?

63 53 73 64

5. Look at the ones digits of the 8s row: 8, 16, 24, 32, 40. What pattern do they make?

0, 2, 4, 6, 8 8, 7, 6, 5, 4 8, 6, 4, 2, 0 8, 4, 2, 6, 0

6. Sam adds three odd numbers: 3 + 5 + 7. Is the sum even or odd? Why?

even, because odd numbers always add to an even number

odd, because any sum of odd numbers is odd

even, because 3 + 5 + 7 is 16

odd, because odd + odd is even, then even + odd is odd

7. The 3s row and the 3s column of a multiplication table have the same numbers. Why?

every number in the 3s row is odd

3 × 5 is the same as 3 + 5

3 × 5 is the same as 5 × 3

each row is 3 more than the last

8. Without multiplying, how do you know 5 × 9 is odd?

every 5s product ends in 5 | both factors are odd | one factor is even

5 + 9 is an even number

9. What rule fits this pattern?

2 6 18 54

add 4 each time | add 12 each time | multiply by 3 each time

multiply by 2 each time

10. Kim says every product in the 6s row is even. Which reason proves it?

6 × 3 = 18, and 18 is even

the other factor is always even

6 is even, and an even factor makes an even product

every 6s product ends in 6

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Answer Key - Grade 3 Math Worksheet - Challenge Me

Circle the answer.

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3 7 11 15 19

(23, 27) 23, 28 21, 23 22, 25

2. Which number is in both the 4s row and the 6s row?

18 16 (24) 30

3. Tia says 6 × 7 is odd because 7 is odd. Is she right?

No, 6 × 7 is even because 7 is odd

(No, 6 × 7 is even because 6 is even)

Yes, an odd factor always makes an odd product

Yes, 6 × 7 is 43, which is odd

4. The digits of a 9s product add to 9. Which number could be in the 9s row?

(63) 53 73 64

5. Look at the ones digits of the 8s row: 8, 16, 24, 32, 40. What pattern do they make?

0, 2, 4, 6, 8 8, 7, 6, 5, 4 (8, 6, 4, 2, 0) 8, 4, 2, 6, 0

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even, because odd numbers always add to an even number

odd, because any sum of odd numbers is odd

even, because 3 + 5 + 7 is 16

(odd, because odd + odd is even, then even + odd is odd)

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