

Grade 4 • Unit 1 Worksheet

Factors and Multiples

Name: _____

Date: _____

Part A • Multiplication Facts

Try these in your head. If you can't recall a fact, write a related fact that helps.

$7 \times 8 =$ _____	$6 \times 9 =$ _____	$48 \div 6 =$ _____	$63 \div 7 =$ _____
$9 \times 4 =$ _____	$8 \times 7 =$ _____	$56 \div 8 =$ _____	$72 \div 9 =$ _____

Part B • Factors and Rectangles

1. Find ALL the factor pairs of 24. Then sketch a rectangle for each pair (label side lengths — no need to draw to scale).

Factor pairs of 24:

How many factor pairs did you find? _____

2. Diego says: "23 has only one factor pair: 1×23 . So 23 is a PRIME number." Is Diego correct? Explain.

Part C • Prime, Composite, and Multiples

3. Sort each number into PRIME or COMPOSITE. Show one factor pair for each composite number.

11 → _____. Factor pair (if composite): _____

15 → _____. Factor pair (if composite): _____

29 → _____. Factor pair (if composite): _____

36 → _____. Factor pair (if composite): _____

49 → _____. Factor pair (if composite): _____

4. Write the first SIX multiples of 6: _____, _____, _____, _____, _____, _____.

What do you notice about the ones digits as you count by 6? Why might this be?

Part D • Show Two Ways

5. Is 48 a multiple of 4? Show TWO different ways to decide.

Way 1. (using multiplication facts)

Way 2. (using division, skip-counting, or a rectangle)

Answer (circle one): ☐ YES, 48 is a multiple of 4 ☐ NO

Part E • Reasoning and Error Analysis

6. Mai says, "49 is prime because 49 is odd and odd numbers are prime." Lin says, "49 isn't prime — I can find a non-trivial factor pair." Who is correct? Explain.

7. A number has EXACTLY three factors. List one such number and explain WHY it has exactly three.

8. Han is building rectangles with an area of 36 square tiles. He finds: 1×36 , 2×18 , 3×12 , 4×9 . Did he find them ALL? If not, what is missing?

Part F • Thinking Deeply

9. Locker Problem: 10 lockers, all closed. Student 1 OPENS every locker. Student 2 CLOSES every 2nd locker. Student 3 CHANGES (open if closed, close if open) every 3rd locker. Continue with students 4-10. Which lockers are open at the end? Explain WHY.

Open lockers: _____

10. Write a story problem whose solution involves finding factor pairs OR multiples. Give the answer.

My problem:

Answer:

11. Choose a number between 50 and 100 that you think is composite. List all its factor pairs. How could you be SURE you found them all?
