

Grade 3 • Unit 4 Worksheet

Relating Multiplication to Division

Name: _____

Date: _____

Part A • Multiplication Facts

Try in your head. If you don't know it instantly, jot a strategy.

$6 \times 4 =$ _____	$7 \times 5 =$ _____	$8 \times 3 =$ _____	$9 \times 6 =$ _____
$4 \times 8 =$ _____	$3 \times 7 =$ _____	$5 \times 9 =$ _____	$6 \times 7 =$ _____

Part B • What Is Division?

1. Sara has 24 cookies. She wants to share them equally with her 3 friends and herself (4 people total).

How many cookies does each person get? _____

Write a division equation: _____ $\div$ _____ = _____

Write a multiplication equation that matches: _____ $\times$ _____ = _____

2. There are 20 students and they want to make groups of 5. How many groups will there be?

Show your thinking:

Answer: _____ groups

Division equation: _____ $\div$ _____ = _____

3. Look at the expression $18 \div 6$. Write TWO different word problems that this could represent.

Problem A — 'How many in each group?':

Problem B — 'How many groups?':

Part C • Multiplication & Division Connection

4. Fill in the related equations.

- a. If $7 \times 8 = 56$, then $56 \div 8 = \underline{\hspace{2cm}}$ and $56 \div 7 = \underline{\hspace{2cm}}$
- b. If $9 \times \underline{\hspace{1cm}} = 45$, then $45 \div 9 = \underline{\hspace{2cm}}$
- c. How does knowing your multiplication facts help with division? Explain.

5. Find each quotient.

- a. $32 \div 4 = \underline{\hspace{2cm}}$ because $\underline{\hspace{2cm}} \times 4 = 32$
- b. $63 \div 9 = \underline{\hspace{2cm}}$ because $\underline{\hspace{2cm}} \times 9 = 63$
- c. $48 \div 6 = \underline{\hspace{2cm}}$ because $\underline{\hspace{2cm}} \times 6 = 48$

Part D • Multiplying Greater Numbers

6. Find 4×30 in TWO ways. Explain at least one way.

Way 1.

Way 2.

7. Find 5×16 by decomposing 16 into $10 + 6$. Show your thinking using an area diagram or pictures.

$$5 \times 10 = \underline{\hspace{2cm}}$$
$$5 \times 6 = \underline{\hspace{2cm}}$$

Total: $5 \times 16 =$ _____

8. Find 7×23 .

Show your work — break 23 apart:

Answer: _____

Part E • Thinking Deeply

9. Maya says: "I don't know 6×8 , but I know $6 \times 4 = 24$, so $6 \times 8 = 24 + 24 = 48$." Is Maya's strategy a good one? Why or why not?

10. There are 36 markers to share equally among some students. If each student gets 4 markers, how many students are there?

Show your work:

Write both a multiplication and a division equation for this:

Multiplication: _____ $\times$ _____ = _____

Division: _____ $\div$ _____ = _____

11. Sam wrote: " $24 \div 6 = 4$ " and " $6 \div 24 = 4$." Are both equations true? Explain.

12. Write a story problem for the expression $(5 \times 4) + 12 = 32$.
