

Arrays Both Ways

GRADE 3

MATHEMATICS

B2.6

Every array tells two stories. Multiply the two sides to get the total. Start with the total and one side, then divide to find the other side. Knowing both means a missing number is never really missing.

PART A: THE MISSING SIDE

1. A job pays \$6 a day and earns \$42 altogether. It was worked for _____ days.
2. A job worked for 8 days earns \$56. It pays \$_____ a day.
3. An array has 9 rows and 63 dots altogether. Each row holds _____ dots.
4. _____ $\times$ 8 = 72.

PART B: TWO STEPS

5. Sahil works a \$7 job for 6 days and a \$4 job for 5 days. What does he earn altogether?

SHOW YOUR WORK

Answer: _____

6. A class earns \$90 from a job paying \$9 a day. How many days was it worked, and what would 4 more days add?

SHOW YOUR WORK

Answer: _____

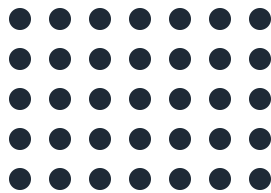
7. Meera says 6×8 and 8×6 give different totals. Show that she is wrong, and explain why using an array.

SHOW YOUR WORK

Answer: _____

PART C: MATCH THE SENTENCE

8. An array has 5 rows with 7 dots in each row. Which division sentence matches it?



- (A) $35 \div 5 = 7$ (B) $35 \div 7 = 6$ (C) $12 \div 5 = 7$

9. A job pays \$8 a day. Which expression gives the number of days worked to earn \$48?

- (A) $48 \div 8$ (B) 48×8 (C) $48 + 8$

PART D: WRITE ONE BOTH WAYS

10. Write a job problem that can be solved by a multiplication and by a division. Give both number sentences and the answer to each.

Arrays Both Ways

ANSWER KEY

1. 7
2. 7
3. 7
4. 9
5. \$62, because the two jobs pay \$42 and \$20.
6. It was worked for 10 days, and 4 more days would add \$36.
7. Both come to 48. An array of 6 rows of 8 turned on its side becomes 8 rows of 6, and turning an array does not add or remove any dots.
8. A) $35 \div 5 = 7$
9. A) $48 \div 8$
10. Answers will vary. Example: a job pays \$6 a day for 7 days, so $6 \times 7 = \$42$; and if \$42 was earned over 7 days, then $42 \div 7 = \$6$ a day. Both sentences must use the same three numbers, which is the point of the pair.

TEACHER NOTES

Extension beyond the grade-level expectation: Part A works backwards from a total to a missing rate, Part B question 3 asks students to justify commutativity with an array rather than assert it, and Part D requires a problem that holds both operations at once.