Multiplicative Comparison

Explore ideas and representations

Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

4 times as many as 6 means 4 equal groups of 6: $4 \times 6 = 24$, not $4 + 6$. To find the factor, use $24 \div 6 = 4$.

Worked example

B is 3 times A. If $A = 7$, find B and check the comparison.

1. Three equal groups give $7 + 7 + 7 = 21$.
2. The comparison equation is $3 \times 7 = 21$.
3. Check the factor: $21 \div 7 = 3$.
Answer: $B = 21$.

Practice Problems

Show your thinking.

1. Write a multiplication equation: 32 is 4 times 8. Then check it by division.

2. Bar A has value 6. Each part of B equals A. Find B.

A | 6 |

B | | | | | |

3. 42 is how many times as large as 7?

4. 54 is 6 times an unknown number. Find that number.

5. Correct: 5 times 9 is 14.

6. Compare 3 more than 8 and 3 times 8. Find both.

7. Complete $\square \times 4 = 28$ and describe 28 using times as large.

8. A bead row has 5 beads. Another has 8 times as many. Find the second count.

Answer Key

1. 32.
2. 30.
3. 6.
4. 9.
5. 45, not 14.
6. 11 and 24.
7. 7.
8. 40 beads.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Four groups give $8 + 8 + 8 + 8 = 32$.
2. Thus $4 \times 8 = 32$.
3. Check: $32 \div 8 = 4$.

Problem 2

1. B contains 5 equal parts of 6.
2. $6 + 6 + 6 + 6 + 6 = 30$.
3. $30 \div 6 = 5$, as the bars show.

Problem 3

1. $7 \times 5 = 35$.
2. One more group gives $35 + 7 = 42$.
3. So $42 \div 7 = 6$.

Problem 4

1. The equation is $6 \times \square = 54$.
2. $54 \div 6 = 9$.
3. Check: $6 \times 9 = 54$.

Problem 5

1. $5 + 9 = 14$ adds the numbers only once.
2. $9 + 9 + 9 + 9 + 9 = 45$ makes five equal groups.
3. The correct equation is $5 \times 9 = 45$.

Problem 6

1. $8 + 3 = 11$ is an additive comparison.
2. $8 + 8 + 8 = 24$ is a multiplicative comparison.
3. The second result exceeds the first by $24 - 11 = 13$.

Problem 7

1. $28 \div 4 = 7$.
2. Check: $7 \times 4 = 28$.
3. So 28 is 7 times as large as 4.

Problem 8

1. 8 equal groups each contain 5 beads.
2. $4 \times 5 = 20$ and $20 + 20 = 40$.
3. $40 \div 5 = 8$ checks the comparison.

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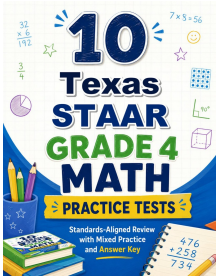

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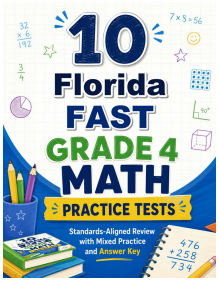

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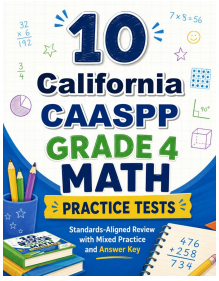

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