Multiplicative Comparison

Spot mistakes, reason, and work backward

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

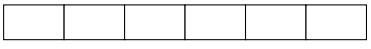
Show your thinking.

1. Test the claim: 36 is 6 more than 6, so it is 6 times 6.

2. Find the missing smaller value: 48 is 8 times $\square$.

3. The larger value is 63 and the smaller is 9. Find the comparison factor.

4. Draw 2 equal parts for A and 6 equal parts for B. How many times A is B?



5. Give two different whole-number pairs in which the larger is 4 times the smaller.

6. Is 20 times as large as 4 the same as 4 times as large as 20? Explain the products.

7. Choose the factor that makes $72 = \square \times 8$, without adding $72 + 8$.

8. A model train is 4 cm long. The display train is 7 times as long. Find its length.

Answer Key

1. The times statement is true; the more statement is false.
2. 6.
3. 7.
4. 3 times A.
5. For example, $(2, 8)$ and $(5, 20)$.
6. Both products are 80, but the starting quantity differs.
7. 9.
8. 28 cm.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. $6 + 6 = 12$, not 36.
2. $6 \times 6 = 36$ does make six groups.
3. $36 - 6 = 30$, so 36 is 30 more than 6.

Problem 2

1. Use $8 \times \square = 48$.
2. $48 \div 8 = 6$.
3. $8 \times 6 = 48$ checks the value.

Problem 3

1. $9 \times 6 = 54$.
2. $54 + 9 = 63$, making 7 groups.
3. The factor is $63 \div 9 = 7$.

Problem 4

1. A uses 2 parts; B uses 6 of the same-sized parts.
2. $6 \div 2 = 3$.
3. Three copies of the 2-part bar use $3 \times 2 = 6$ parts.

Problem 5

1. Choose 2 as a smaller number: $4 \times 2 = 8$.
2. Choose a different smaller number, 5: $4 \times 5 = 20$.
3. Both checks work: $8 \div 2 = 4$ and $20 \div 5 = 4$.

Problem 6

1. $20 \times 4 = 80$ makes 20 groups of 4.
2. $4 \times 20 = 80$ makes 4 groups of 20.
3. The factor and starting quantity trade roles; both totals equal 80.

Problem 7

1. $8 \times 10 = 80$.
2. $80 - 8 = 72$, which is one fewer group.
3. Therefore $9 \times 8 = 72$ and the factor is 9.

Problem 8

1. 7 groups of 4 cm represent the display length.
2. $5 \times 4 = 20$ and $2 \times 4 = 8$.
3. $20 + 8 = 28$ cm; $28 \div 4 = 7$.

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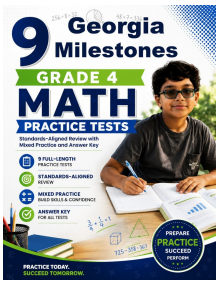

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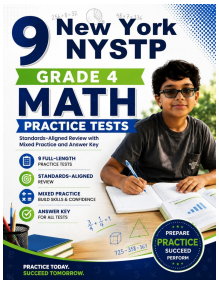

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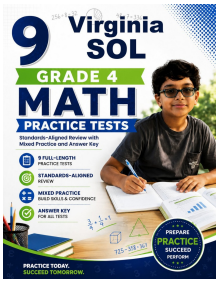

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