Interpreting Quotients of Whole Numbers

Explore ideas and representations

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

QUICK REVIEW

Division has two meanings. $12 \div 3 = 4$ can mean 12 objects shared among 3 people, giving 4 each. It can also mean 12 objects in groups of 3, making 4 groups. Check with $3 \times 4 = 12$.

Worked example

For $8 \div 2 = 4$, give both a sharing meaning and an equal-groups meaning.

1. Equal sharing: 2 children get 4 each, so $2 \times 4 = 8$.
2. Equal grouping: 4 groups hold 2 each, so $4 \times 2 = 8$.
Answer: Share among 2: 4 each. Groups of 2: 4 groups.

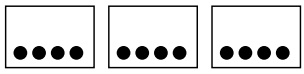
Practice Problems

Show your thinking.

1. Share 18 counters equally among 3 children. How many does each child get?

2. Put 20 counters into groups of 5. How many groups can you make?

3. How many counters are in each of the 3 boxes? Write a division equation whose quotient counts counters per box.



4. For $24 \div 4 = 6$, give both a sharing meaning and an equal-groups meaning.

5. 15 beads fill bags of 3 beads. Lee says the quotient 5 means beads per bag. Correct the label.

6. 4 teams each receive 4 counters. Find the starting total, then write a sharing equation.

7. 30 counters must fit in boxes of 5. A helper brings 5 boxes. How many more boxes are needed?

8. Share 14 counters equally among 2 children. How many does each child get?

Answer Key

1. 6 counters per child.
2. 4 groups.
3. $12 \div 3 = 4$; counters in each box.
4. Share among 4: 6 each. Groups of 4: 6 groups.
5. 5 bags; 3 beads per bag.
6. 16 counters; $16 \div 4 = 4$.
7. 1 more box.
8. 7 counters per child.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Each of the 3 children gets the same share: $18 \div 3 = 6$.
2. Check all shares: $3 \times 6 = 18$ counters.

Problem 2

1. Each group uses 5 counters; 4 groups use $4 \times 5 = 20$.
2. Therefore $20 \div 5 = 4$ counts groups, not counters in one group.

Problem 3

1. Count 3 equal boxes holding 12 counters altogether.
2. $12 \div 3 = 4$ counters per box; $3 \times 4 = 12$ checks it.

Problem 4

1. Equal sharing: 4 children get 6 each, so $4 \times 6 = 24$.
2. Equal grouping: 6 groups hold 4 each, so $6 \times 4 = 24$.

Problem 5

1. $15 \div 3 = 5$ because $5 \times 3 = 15$.
2. The size 3 beads per bag is already given; the unknown 5 is the number of bags.

Problem 6

1. Combine the shares: $4 \times 4 = 16$ counters.
2. Sharing the total again gives $16 \div 4 = 4$ per team.

Problem 7

1. The total needs $30 \div 5 = 6$ boxes.
2. $6 - 5 = 1$, so bring 1 more box.

Problem 8

1. Each of the 2 children gets the same share: $14 \div 2 = 7$.
2. Check all shares: $2 \times 7 = 14$ counters.

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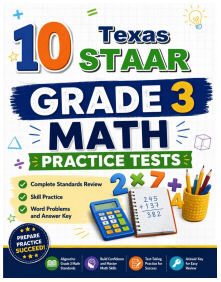

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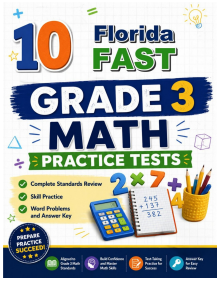

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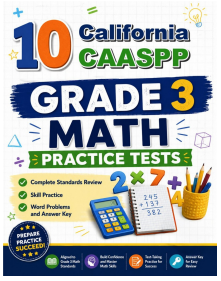

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