

Math Moments - 4th Grade

Unit 3 Multiplicative Comparisons

Solving Word Problems Involving Multiplicative Comparison

Examples:

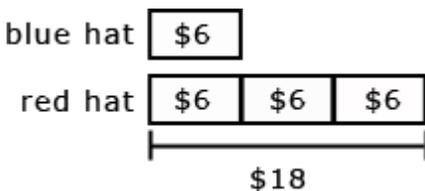
- **Larger Unknown:** A blue scarf costs \$3. A red scarf costs 6 times as much. How much does the red scarf cost? ($3 \times 6 = p$)
- **Smaller Unknown:** A book costs \$18. That is 3 times more than a DVD. How much does a DVD cost? ($18 \div p = 3$ or $3 \times p = 18$)
- **Multiplier Unknown:** A red scarf costs \$18. A blue scarf costs \$6. How many times as much does the red scarf cost as the blue scarf? ($18 \div 6 = p$ or $6 = 18$).

Larger Unknown:

“A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost?”

In solving this problem, the student should identify \$6 as the quantity that is being multiplied by 3. The student should write the problem using a symbol to represent the unknown.

$$(\$6 \times 3 =)$$



Example:

Multiplier Unknown:

A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat?

In solving this problem, the student should identify \$18 as the quantity being divided into shares of \$6. The student should write the problem using a symbol to represent the unknown. ($18 \div 6 =$)

Measurement

Students must be able to understand measurements in kilograms, grams, feet, inches, pound, ounces, liter, milliliter, hour, minutes, seconds, kilometer, meter and centimeters.

Students may use a two-column chart to convert from **larger to smaller** units and record equivalent measurements. They make statements such as, if one foot is 12 inches, then 3 feet has to be 36 inches because there are 3 groups of 12.

Example:

kg	g
1	1000
2	2000
3	3000
<i>n</i>	<i>n</i> x 1000

ft	in
1	12
2	24
3	36
<i>n</i>	<i>n</i> x 12

lb	oz
1	16
2	32
3	48
<i>n</i>	<i>n</i> x 16

Example:

Charlie and 10 friends are planning for a pizza party. They purchased 3 quarts of milk. If each glass holds 8oz will everyone get at least one glass of milk?

Possible Solution: Charlie plus 10 friends = 11 total people

11 people x 8 ounces (glass of milk) = 88 total ounces

1 quart = 2 pints = 4 cups = 32 ounces

Therefore

1 quart = 2 pints = 4 cups = 32 ounces

2 quarts = 4 pints = 8 cups = 64 ounces

3 quarts = 6 pints = 12 cups = 96 ounces

Example:

At 7:00 a.m. Candace wakes up to go to school. It takes her 8 minutes to shower, 9 minutes to get dressed and 17 minutes to eat breakfast. How many minutes does she have until the bus comes at 8:00 a.m.? Use the number line to help solve the problem.

