

Lesson 9: Solving Applied Problems of Integers

Steps to solving Word problems

1. Read the problem carefully and write down key terms or points in the question.
2. Determine the question that is being asked.
3. Identify the operation (+, −, ×, ÷) that needs to be used to solve.

Key terms

Operation	Idea and Possible Key words and phrases
Add	Combining quantities of 2 or more items Key words: “Find the total”, “how many altogether”, in all, sum, both, combined
Subtract	Finding 1 portion of a total Order matters, generally the larger number goes first. Key words: “how much left/less” “how many more”, fewer, less , difference, minus , remains
Multiply	How many of the same thing repeated Combining 2 different units (school, girls) Ratio (fraction) of a total A lot like addition, except each item has the equal amount Key words: total, in all groups, area, times, rate
Divide	Separate the total to even amounts, or finding a rate (speed) Order matters; the total goes first Sometimes using portion can help Key words: “how many equal groups”, “If divided evenly, the same number”, “how many each”, “how many times as much big ___ as ___”, shared

Which operations would you use to solve each problem? Highlight the key terms or phrases.

Example 1: Four students **equally shared** $\frac{1}{2}$ of a cake. What fraction of the cake did **each student** eat?

Divide: $\frac{1}{2} \div 4$

Example 2: Jan is making a recipe that calls for **six scoops of flour**. She wants to make **5 of the recipe**. How many scoops of flour will she need to use?

Multiply: 6×5

Example 3: Kassie worked on her science project for 4h on Tuesday and 8h on Wednesday. How long did Kassie work on her science project **altogether**?

Add: $4 + 8$

Example 4: Anton drank $2\frac{3}{4}$ bottles of water. Brad drank $1\frac{7}{8}$ bottles of water. **How much more** water did Anton drink than Brad?

Subtract: $15 - 8$

Assignment: Worksheet