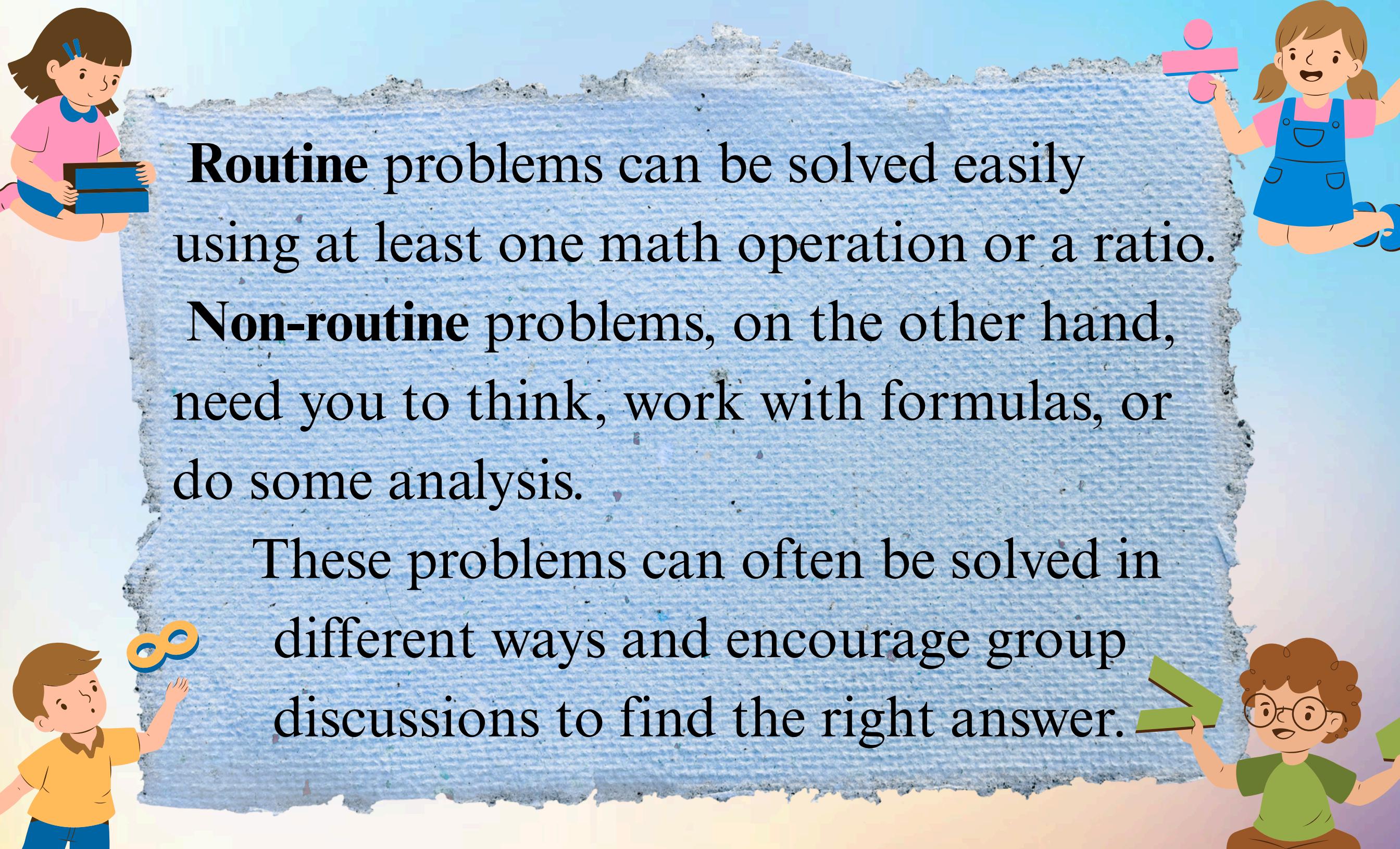




# Routine and Non-routine Problem involving Percentage, Rate, and Base





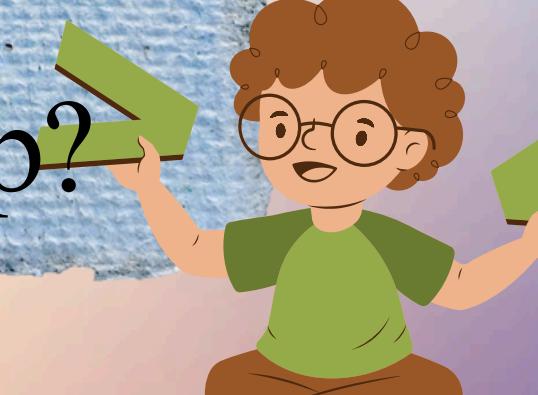
**Routine** problems can be solved easily using at least one math operation or a ratio.

**Non-routine** problems, on the other hand, need you to think, work with formulas, or do some analysis.

These problems can often be solved in different ways and encourage group discussions to find the right answer.

## Example problem:

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### Understand:

#### 1. What is asked?

- The number of women participated in the seminar workshop.

#### 2. What are the given facts?

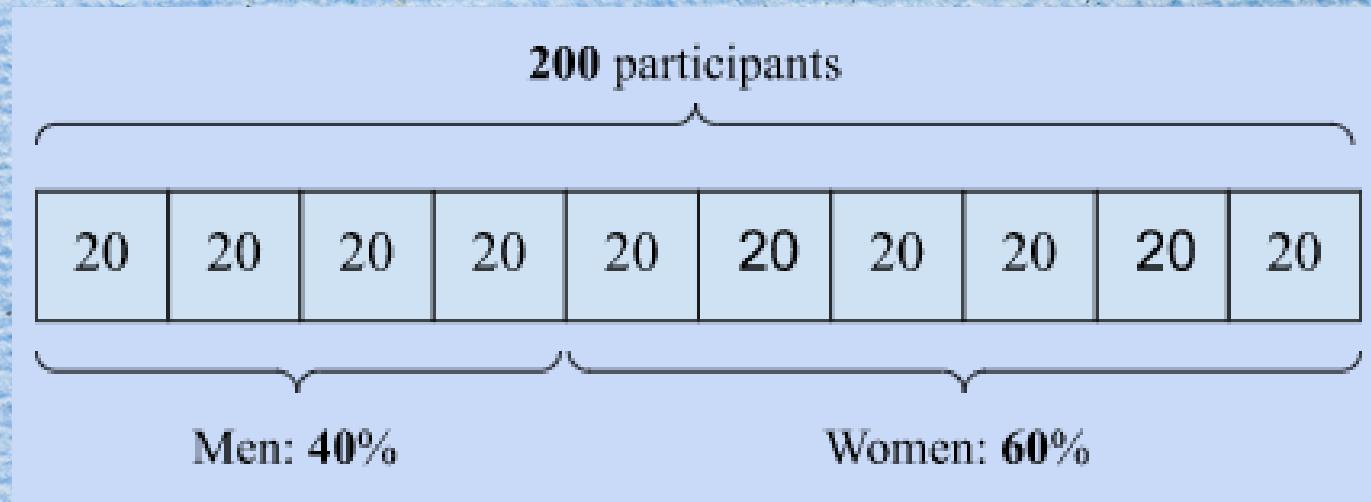
- 200 participants. Of the total, 30% were male.



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## Plan:



If there were 40% men participants,  $100\% - 40\% = 60\%$ . Therefore, 60% are women. You can use the formula for finding the percentage.  $P = R \times B$



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### Solve:

Using the formula, we have;

$$P = R \times B =$$

$$P = 60\% \times 200$$

$$P = 0.60 \times 200$$

$P = 120 \longrightarrow$  The number of women participants

**Answer: There were 120 women participants in the seminar workshop.**





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### **Check:**

This is one way to know if your answer is correct.

$$40\% \times 200 = 0.40 \times 200 = 80 \text{ - men participants}$$

$$60\% \times 200 = 0.60 \times 200 = 120 \text{ - women participants}$$

$$120 + 80 = 200 \text{ - total number of participants}$$



## Take note:

**Percentage** is the amount that represents a part of a whole.

- To find the percentage of a number, you can change it to decimal or fraction and then multiply it by the given number or multiply the percent or rate (R) by the given number or base (B).



**Take note:**

**Base** is the number that represents the whole or entire amount.

- In finding the base ( $B$ ), just divide the percentage by the rate.





## Take note:

**Rate** is the number compared to 100. Usually it has either a percent sign (%) or the word "percent" with it.

- To find the percent or rate, divide the percentage by the given number or base (B) or rewrite the number as a fraction, then change the denominator to 100. Simplify and write the percent symbol (%).

