

Sample Word Problem Progression

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PRACTICE A

- Express each fraction as a percentage.
(a) $\frac{5}{100}$ (b) $\frac{9}{25}$ (c) $\frac{3}{5}$ (d) $\frac{8}{160}$
- Express each decimal as a percentage.
(a) 0.63 (b) 0.05 (c) 0.2 (d) 0.5
- Express each percentage as a fraction in its simplest form.
(a) 46% (b) 5% (c) 7% (d) 80%
- Express each percentage as a decimal.
(a) 15% (b) 41% (c) 9% (d) 50%
- 15 out of 100 oranges in a box are rotten. What percentage of the oranges are rotten?
- There are 100 marbles in a bag. 37 of them are green. The rest are red. What percentage of the marbles are red?
- A football team won 60% of its games. What fraction of the games did the football team win?
- If 70% of a tank is filled with water. What percentage of the tank is not filled?
- $\frac{4}{5}$ of the books in a library are fiction books. What percentage of the books are fiction books?
- 14 out of 50 vehicles in a parking lot are motorcycles. What percentage of the vehicles are motorcycles?
- 1500 people took part in a walkathon. 450 of them were school children. The rest were adults. What percentage of the participants were adults?
- Tracy bought 5 kg of flour. She use 2 kg to make cookies and the rest to make pineapple tarts. What percentage of the flour did she use to make pineapple tarts?

#5 No computation needed. "out of 100"

#6 Variation in 2 levels

- Find complement: 37% are red, how many aren't?
- Convert to percentage.

7. Connects fraction to percentage.

8. Complement & links percentage to a fraction

9. Convert fraction to percentage (reversed from previous)

10. Corresponds to problem #5. Visualize: "if 14/50 how many out of 100?"

11. "Can you imagine how many of 100?"
Demonstrates thinking proportionally

12. First application to measures. Measurement is a continuous quantity, making this problem more abstract.