Unit 6 · Percentage

HARDER PRACTICE QUESTIONS

Full marks 30

Write your answers on separate paper. Show your working. A bar for the whole, 100%, cut into equal pieces, often helps.

1 Spot the errors [3]

Sanskar wrote: "25% of 80 is $80 - 25 = 55$" and "$\frac{3}{8} = 38\%$".

i. Correct each one.
ii. Say what he did wrong in each.

2 Smallest to biggest [3]

Write these in ascending order: 0.45, $\frac{3}{8}$, 42%, $\frac{2}{5}$. Change them all to percentages first.

3 Getting to school [4]

In a class of 40 students, 35% walk to school, $\frac{1}{4}$ come by bus and 0.3 of them come by bicycle. The rest come on a parent's motorbike. (The class is made up.)

i. How many students come each way?
ii. What percentage come by motorbike?

4 Work backwards [3]

In a school election, Barsha got 45% of the votes and Nischal got 38%. The other 34 votes were spoiled. How many students voted? (The election is made up.)

5 Which shop is cheaper? [3]

The same jacket is priced Rs 2400 in one shop, with 20% off (20% of the price is taken off). In another shop it is priced Rs 2000, with 5% off. In which shop is it cheaper, and by how much?

6 Two friends' money [3]

10% of Aaryan's money is the same as 25% of Sakshi's money. Aaryan has Rs 500. How much has Sakshi?

7 A phone's battery [4]

A phone's battery holds 5000 units of charge. Watching videos, it loses 15% of a full charge every hour. It starts full. (The numbers are made up.)

i. How many units does it lose each hour?
ii. What percentage is left after 4 hours?
iii. After how many whole hours is it first below 20%?
iv. How many units are left at that time?

8 Make your own [3]

On squared paper, draw a square of 10×10 small squares. Color $\frac{1}{4}$ of it red, 0.3 of it blue and 15% of it green, in any pattern you like.

i. How many small squares of each color did you color?
ii. What percentage of the square is not colored? Write it as a fraction in its lowest terms too.

9 Think: up 10%, then down 10% [4]

A shop raises the price of a cycle of Rs 10000 by 10%. A month later it lowers the new price by 10%.

i. What is the price after it is raised?
ii. What is the price after it is lowered?
iii. Is the cycle back at its first price? Explain why or why not.
iv. Would it be different if the price were lowered first, then raised?