Grade 8 Math, Explained

Unit 5 · Profit and Loss

HARDER PRACTICE QUESTIONS

Full marks 27

Write your answers on separate paper. Show your working. A discount is a percent of the marked price, and a profit or loss percent is a percent of the cost price.

1 Work backwards [3]

A shopkeeper marks a heater 25% above its cost price and gives a 12% discount. Her profit is Rs 300. Find the cost price, the marked price and the selling price.

2 No profit, no loss [3]

A trader marks her goods 25% above the cost price.

i. What discount percent lets her sell with no profit and no loss?

ii. Her helper says it should be 25%. What would she lose, as a percent of the cost price, if she gave 25%?

3 The biggest discount [3]

A bicycle costs a shop Rs 8,000 and is marked Rs 12,000. The owner wants a profit of at least 15%.

i. What is the lowest price she can sell it for?

ii. What is the largest whole-number discount percent she can give?

4 Which offer? [4]

Two shops sell the same notebook set, marked Rs 400. Shop A says “Buy 3, get 1 free”. Shop B says “20% off everything”.

i. What does Shop A’s offer come to as a discount percent, for someone who takes four sets?

ii. Which shop is cheaper for four sets, and by how much?

iii. Which shop is cheaper for someone who needs only three sets?

5 Spot the error [3]

Find the mistake and correct it.

At a festival sale, a jacket marked Rs 2,000 has a 20% discount, and members get a further 10% off the sale price. Rizwan says: “That is 30% off, so a member pays Rs 1,400.”

6 Same price, opposite percents [4]

A dealer sold two used phones for Rs 2,400 each. On one he made a profit of 20%, and on the other a loss of 20%. He says: “I broke even.” Is he right? Find his overall profit or loss percent.

7 In a real setting [3]

A vegetable seller buys 50 kg of tomatoes at Rs 60 a kg. One-tenth of them spoil on the way. At what price per kg must she sell the rest to make a 20% profit on all she paid? (The numbers are made up for the problem.)

8 Think [2]

A shopkeeper says: “My profit on everything is 20% of the price the customer pays.” Her neighbor says: “So your profit percent is 20%.” Is the neighbor right? Use an item sold for Rs 1,000 to explain.

9 Make your own [2]

Choose a mark-up percent and a discount percent, both whole numbers, that give a profit of exactly 8% on the cost price. Show that your choice works with a cost price of Rs 500.