

Problem-solving with discounts and increases

MODULE 3 · FRACTIONS, DECIMALS AND PERCENTAGES NUMBER

A **discount** subtracts a percentage; an **increase** adds one. Find the percentage part, then take it away or add it on.

→ 20% off €50 → 20% = €10 → pay **€40**.

→ A €30 price up 10% → +€3 → **€33**.

A €45 COAT HAS 20% OFF. WHAT'S THE SALE PRICE?

1 20% of €45: 10% = €4.50, so 20% = **€9**.

2 Subtract the discount: €45 – €9 = **€36**.

HOW TO ANSWER TODAY

- **Percent of a quantity.** Find 10% first ($\div 10$) and build up, or find 1% ($\div 100$) and multiply.

20% of 50 → 10% of 50 = 5, $\times 2 = 10$

- **Sale price.** Find the discount (percent of price). Subtract from the original price.

€60, 20% off → 20% of €60 = €12 → €60 – €12 = €48

- **Discount / increase.** Work out the percent of the price, then take it off (discount) or add it on (increase).

€80 with 15% off → 15% of €80 = €12 → €80 – €12 = €68

WARM-UP

a. What is 50% of 80

b. What is 50% of 160

c. What is 10% of 160

d. What is 10% of 80

PRACTICE

- 1 A winter jacket in Dunnes Stores costs **€132.00** before a **15%** discount in the January sale. Saoirse's mam wants to buy it for her. What is the sale price?

- 2 The SuperValu near Niamh's school has **280** loaves of bread delivered on Monday morning. By lunchtime, **75%** of the loaves have been sold. How many loaves have been sold?

What is 75% of 280?

CHALLENGE

- 1 Saoirse and her cousins are pooling their money to buy Granda a winter jacket as a joint birthday present. The jacket is priced at **€453.99** in Dunnes Stores and has **35%** off in the sale. What is the sale price of the jacket?

A jacket costs €453.99 before a 35% discount. What is the sale price?

- 2 A new bird-feeder kit for the classroom window costs **€200** at the garden centre. Cian sees a sign saying all bird-feeder kits are reduced by **15%** this week. What is the new price?