

# Numeracy Problems

LET Mathematics & Statistics

1. A coffee shop generates £4,500 in revenue this month. The cost of coffee beans, milk, and rent totals £3,250. Calculate the profit.

**Solution**

$$4500 - 3250 = \text{£}1250.$$

2. A startup spends £12,000 on development but only makes £4,500 in sales. What is their profit?

**Solution**

$$4500 - 12000 = -\text{£}7500 \text{ (Loss).}$$

3. A laptop costs £800 excluding VAT. VAT is charged at 20%. Calculate the total price including VAT.

**Solution**

$$800 \times 1.20 = \text{£}960.$$

4. A supplier offers a 15% trade discount on an order of £2,000. What is the discounted price?

**Solution**

$$2000 \times 0.85 = \text{£}1700.$$

5. A service bill is £144, which includes VAT at 20%. Calculate the cost *before* VAT was added.

**Solution**

$$144 \div 1.20 = \text{£}120.$$

6. Calculate the total cost for each item line, and then the Grand Total.

Item	Quantity	Unit Cost (£)	Total Cost (£)
Hard Drives	10	45.50	455.00
Monitors	5	120.00	600.00
Keyboards	20	15.25	305.00
<b>GRAND TOTAL</b>			1,360.00

7. A tech company is valued at £45,000,000. Write this in Standard Form.

**Solution**

$$4.5 \times 10^7.$$

8. The GDP of a country is £2.8 Trillion (£2,800,000,000,000). Write this in Standard Form.

**Solution**

$$2.8 \times 10^{12}.$$

9. A budget deficit is listed as  $1.2 \times 10^5$ . Write this as an ordinary number.

**Solution**

$$120,000.$$

10. You need to buy 50 office chairs. Supplier A charges £40 per chair. Supplier B charges £50 per chair but offers a 25% discount on the total order. What is the **difference in total price** between the two suppliers?

**Solution**

A: £2000. B: £1875. Difference: £125.

11. Fill in the missing values from the bank statement.

Date	Description	Money In	Money Out	Balance
01 Jan	Opening Balance	—	—	£1,200
05 Jan	Office Rent		500	700
10 Jan	Client Payment	800		£1,500
15 Jan	Staff Wages		600	£900
20 Jan	Utility Bill		150	750

12. A bakery has fixed monthly costs of £2,000. They sell cakes for £5.00 each. It costs them £1.00 in ingredients to make each cake. How many cakes must they sell to cover their costs?

**Solution**

Profit/cake £4.  $2000 \div 4 = 500$  cakes.

13. A salesperson earns a basic salary of £1,500 per month. They also earn 10% commission on any sales **above** £10,000. In March, they made £18,000 in sales. Calculate their total pay for the month.

**Solution**

Commission on 8000 is 800. Total £2,300.

14. A UK business buys a machine from the USA for \$6,000 (USD). The exchange rate is £1 = \$1.25. The shipping company charges a flat fee of £200. What is the total cost in Pounds Sterling (£)?

**Solution**

$6000 \div 1.25 = 4800$ . Total £5,000.

15. An employee's gross monthly pay is £3,250. Income Tax is calculated as 20% of their earnings **after** a tax-free allowance of £12,570 per year is deducted. Calculate their net monthly pay (after income tax is deducted) to the nearest whole number.

### Solution

Yearly gross income  $3250 \times 12 = 39000$

Taxable income  $39000 - 12570 = 26430$

20 % tax  $\frac{20}{100} \times 26450 = 5286$

Yearly income after tax  $39000 - 5286 = 33714$

Monthly income after tax  $33714 \div 12 = 2809.50$

£2810