

# Numeracy Skills

LET Mathematics & Statistics

## 1 General Arithmetic

1. Calculate:  $4 - 9$
2. Calculate:  $-6 + (-5)$
3. Calculate:  $-3 - (-7)$
4. Calculate:  $-8 \times -4$
5. Calculate:  $45 \div -9$
6. Calculate:  $-5 + 8 - 12$
7. Calculate:  $10 - (-5) + (-20)$
8. Calculate:  $7 + 6 \times 3$
9. Calculate:  $50 - 5^2$
10. Calculate:  $(12 - 5) \times 4$
11. Calculate:  $24 \div 4 \times 2$
12. Calculate:  $20 - 15 + 5$
13. Calculate:  $3 + 4 \times (10 - 7)$
14. Calculate:  $40 - 10 \times 2 + 15 \div 3$
15. Calculate:  $-5 + 3 \times (4 - 9)$

## 2 Fractions

1. Simplify the fraction  $\frac{8}{12}$ .
2. Simplify the fraction  $\frac{15}{25}$ .

3. Simplify the fraction  $\frac{18}{24}$ .
4. Simplify the fraction  $\frac{24}{36}$ .
5. Simplify the fraction  $\frac{42}{56}$ .
6. Calculate:  $\frac{2}{9} + \frac{5}{9}$
7. Calculate:  $\frac{3}{4} - \frac{1}{8}$
8. Calculate:  $\frac{1}{3} + \frac{2}{5}$
9. Calculate:  $\frac{7}{8} - \frac{1}{6}$
10. Calculate:  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$
11. Calculate:  $\frac{3}{7} \times \frac{2}{5}$
12. Calculate:  $\frac{3}{4} \times \frac{2}{3}$
13. Calculate:  $5 \times \frac{3}{4}$
14. Calculate:  $\frac{4}{9} \times \frac{3}{8}$
15. Calculate:  $\frac{1}{2} \times \frac{2}{3} \times \frac{3}{5}$
16. Calculate:  $\frac{2}{3} \div \frac{1}{5}$
17. Calculate:  $\frac{3}{7} \div \frac{2}{3}$
18. Calculate:  $4 \div \frac{1}{3}$
19. Calculate:  $\frac{5}{8} \div 2$
20. Calculate:  $\frac{4}{5} \div \frac{8}{15}$
21. Convert  $2\frac{1}{4}$  to an improper fraction and multiply by  $\frac{2}{3}$ .
22. Calculate:  $(\frac{2}{5})^2$
23. Calculate:  $\frac{1}{2} + \frac{1}{3} \times \frac{1}{2}$
24. Calculate:  $(\frac{1}{2} + \frac{1}{4}) \div \frac{3}{8}$

25. Calculate:  $1\frac{1}{2} \div 2\frac{1}{4}$

### 3 Percentages

1. Convert  $\frac{4}{5}$  to a percentage.
2. Convert  $\frac{5}{8}$  to a percentage.
3. Convert  $\frac{13}{20}$  to a percentage.
4. Convert  $\frac{7}{40}$  to a percentage.
5. Convert  $\frac{19}{25}$  to a percentage.
6. Calculate 15% of 60.
7. Calculate 45% of 240.
8. Calculate 6% of 350.
9. Calculate 12.5% of 80.
10. Calculate 95% of 200.
11. Calculate the percentage increase from 40 to 46.
12. Calculate the percentage decrease from 80 to 60.
13. Calculate the percentage increase from 25 to 75.
14. A price falls from 200 to 190. What is the percentage decrease?
15. A population grows from 1,500 to 1,800. What is the percentage growth?
16. Increase 250 by 12%.
17. Decrease 400 by 15%.
18. Increase 45 by 4%.
19. Decrease 120 by 2.5%.
20. A salary of 24,000 is increased by 3.5%. What is the new salary?

21. A number is increased by 10% and the result is 55. Calculate the original number.
22. After a decrease of 20%, a price is 64. Calculate the original price.
23. An item is sold for 230 which includes a 15% profit. What was the cost price?
24. Water volume decreases by 5% to 190 litres. What was the original volume?
25. After a massive 150% increase, a value is 500. What was the original value?

## 4 Standard Form

1. Write  $3 \times 10^2$  as an ordinary number.
2. Write  $5.2 \times 10^3$  as an ordinary number.
3. Write  $1.45 \times 10^4$  as an ordinary number.
4. Write  $6 \times 10^5$  as an ordinary number.
5. Write  $9.02 \times 10^4$  as an ordinary number.
6. Write 4000 in Standard Form.
7. Write 250 in Standard Form.
8. Write 8,000,000 in Standard Form.
9. Write 52,100 in Standard Form.
10. Write 19,500,000 in Standard Form.
11. Write  $5 \times 10^{-1}$  as an ordinary number.
12. Write  $2 \times 10^{-3}$  as an ordinary number.
13. Write  $4.5 \times 10^{-2}$  as an ordinary number.
14. Write  $1.23 \times 10^{-4}$  as an ordinary number.
15. Write  $9.9 \times 10^{-3}$  as an ordinary number.
16. Write 0.006 in Standard Form.

17. Write 0.04 in Standard Form.
18. Write 0.000052 in Standard Form.
19. Write 0.00105 in Standard Form.
20. Write 0.0000009 in Standard Form.

## 5 Numeracy Problems

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.
2. A startup spends £12,000 on development but only makes £4,500 in sales. What is their profit?
3. A laptop costs £800 excluding VAT. VAT is charged at 20%. Calculate the total price including VAT.
4. A supplier offers a 15% trade discount on an order of £2,000. What is the discounted price?
5. A service bill is £144, which includes VAT at 20%. Calculate the cost *before* VAT was added.

**6. Inventory Valuation:** Calculate the total cost for each item line, and then the Grand Total.

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

7. A tech company is valued at £45,000,000. Write this in Standard Form.
8. The GDP of a country is £2.8 Trillion (£2,800,000,000,000). Write this in Standard Form.
9. A budget deficit is listed as  $1.2 \times 10^5$ . Write this as an ordinary number.

- 10. Supplier Selection:** 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?

- 11. Reconciling a Bank Statement:** Fill in the missing values.

Date	Description	Money In	Money Out	Balance
01 Jan	Opening Balance	—	—	<b>£1,200</b>
05 Jan	Office Rent		500	
10 Jan	Client Payment			<b>£1,500</b>
15 Jan	Staff Wages			<b>£900</b>
20 Jan	Utility Bill		150	

- 12. Break-Even Analysis:** 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?
- 13. Commission:** 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.
- 14. Importing:** 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 (£)?
- 15. Net Pay:** An employee's gross monthly pay is £3,000. Income Tax is calculated as 20% of their earnings **after** a tax-free allowance of £1,000 is deducted. Calculate their Net Pay.