

UNIT 11 Fractions and Percentages

Mental Tests

Test 11.1 (no calculator)

1. Write 25% as a fraction in its simplest form. $(\frac{1}{4})$
2. Convert 0.37 to a percentage. (37%)
3. Convert $\frac{9}{20}$ to a percentage. (45%)
4. What is $\frac{1}{5}$ of 40 km? (8 km)
5. Find 15% of 200 gm. (30 gm)
6. A shopkeeper buys chocolate bars for 20p each and sells them for 25p each.
What is his percentage profit on each bar? (25%)
7. VAT is currently $17\frac{1}{2}\%$. What is the VAT to be added to a bill of £400? (£70)
8. Find
 - (a) $\frac{1}{2} + \frac{3}{8}$ $(\frac{7}{8})$
 - (b) $\frac{3}{7} \times \frac{28}{15}$ $(\frac{4}{5})$
 - (c) $\frac{12}{5} \div \frac{4}{15}$ (9)

Test 11.2 (no calculator)

1. Write 30% as a fraction in its simplest form. $(\frac{3}{10})$
2. Convert 0.4 to a percentage. (40%)
3. Convert $\frac{3}{25}$ to a percentage. (12%)
4. What is $\frac{3}{8}$ of 32 cm? (12 cm)
5. Find 30% of 250 litres. (75 litres)
6. You bought a CD player for £50 and sold it for £65.
What is the percentage profit made? (30%)
7. VAT is currently $17\frac{1}{2}\%$. What is the VAT to be added to a bill of £500? (£87.50)
8. Find
 - (a) $\frac{2}{5} + \frac{1}{3}$ $(\frac{11}{15})$
 - (b) $\frac{9}{11} \times \frac{44}{27}$ $(\frac{4}{3})$
 - (c) $\frac{15}{4} \div \frac{25}{2}$ $(\frac{3}{10})$

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Test 11.3 (no calculator)

1. Your hourly rate of pay of £2.50 is increased by 10%. What is the new rate of pay? (£2.75)
2. A bike costs £200 plus VAT at $17\frac{1}{2}\%$. What is the total cost of the bike? (£235)
3. Decrease £500 by 7%. (£465)
4. Increase a salary of £12 000 by 5%. (£12 600)
5. The cost of a one minute telephone call decreases from 20p to 17p. What is the percentage decrease? (15%)
6. Find
 - (a) $\frac{1}{5} + \frac{2}{15}$ ($\frac{1}{3}$)
 - (b) $\frac{3}{4} \times \frac{16}{27}$ ($\frac{4}{9}$)
 - (c) $\frac{7}{12} \div \frac{14}{27}$ ($\frac{9}{8}$)
7. A person invests £100 in an account that pays 10% interest each year. Find the value of the investment after 2 years. (£121)
8. After a 20% discount, the new price is £160. What was the original price? (£200)

Test 11.4 (no calculator)

1. Your hourly rate of pay of £3.00 is increased by 5%. What is the new rate of pay? (£3.15)
2. A TV costs £400 plus VAT at $17\frac{1}{2}\%$. What is the total cost of the TV? (£470)
3. Decrease £350 by 4%. (£336)
4. Increase a salary of £15 000 by 7%. (£16 050)
5. The cost of a ticket is reduced from £25 to £20. What is the percentage decrease? (20%)
6. Find
 - (a) $\frac{3}{7} + \frac{2}{5}$ ($\frac{29}{35}$)
 - (b) $\frac{4}{9} \times \frac{27}{20}$ ($\frac{3}{5}$)
 - (c) $\frac{8}{15} \div \frac{4}{25}$ ($\frac{10}{3}$)
7. You invest £1000 in an account that pays 20% interest each year. Find the value of your investment after 2 years. (£1440)
8. After a 10% discount, the new price is £360. What was the original price? (£400)