

Percentages

KS3 Maths · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Find 30% of 240

Step 1 · Find 10% by dividing by 10

$$10\% \text{ of } 240 = 24$$

Step 2 · Multiply by 3 to get 30%

$$30\% = 24 \times 3 = 72$$

Answer: 72

Check: $30/100 \times 240 = 0.3 \times 240 = 72$ ✓

2. Now try one with the steps

A jacket costs £85, reduced by 20%. Find the sale price.

Step 1 · Find 20% of £85

Step 2 · Subtract from original price

Step 3 · Or: sale price = 80% of £85 = 0.8×85

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Write 35% fraction in its simplest form. [1]

2. Convert 0.64 to a percentage. [1]

3. Find 35% of 280. [2]

4. A TV costs £420. It is reduced by 15%. Find the sale price. [2]

5. A price increases from £80 to £96. Find the percentage increase. [3]

6. After a 25% increase, a salary is £37,500. Find the original salary. [3]

7. Write $\frac{3}{5}$ percentage. [1]

8. Find 10% of £64. [1]

9. Write 0.07 percentage. [1]

10. Find 15% of 80. [2]

11. Find 7% of 350. [2]

12. Increase £240 by 35%. [2]

13. Write 18 percentage of 72. [2]

14. Write in order, smallest first: 0.42, $\frac{2}{5}$, 41% [2]

15. In a sale, prices are reduced by 30%. A coat now costs £56. What was its original price? [3]

16. Without a calculator, find 4% of 75. [2]

17. Ravi scored 36 out of 45 in maths and 42 out of 56 in science. In which test did he do better? [3]

4. Before you hand it in

Finding % of the new value instead of the original for % change

% change = $(\text{change} \div \text{ORIGINAL}) \times 100$. Always divide by the starting value, not the ending one.

Reverse percentage: price after 20% rise is £120, so original = £120 – 20% = £96

£120 is 120% of the original. Divide by 1.20: $£120 \div 1.2 = £100$. Never apply the % to the new value.

Writing 0.5% decimal 0.5

$0.5\% = 0.5 \div 100 = 0.005$ — half of one per cent is tiny. A useful shortcut while you are here: $a\%$ of $b = b\%$ of a , so 4% of 75 = 75% of 4 = 3.

Percentage increase then decrease returns to original (e.g. +10% then –10%)

$100 + 10\% = 110$, then $110 - 10\% = 99$, not 100. Each % is applied to whatever the current value is.