

How to tackle percentage change problems

1. Make a table. Include all relevant information from the question:

Original Amount	Percentage Change	Final Amount

2. Choose the right calculation for the situation.

Eg 1:

Lorna buys a car for £4000 and then sells it a year later for 8% less. How much does she sell the car for?

Original Amount	Percentage Change	Final Amount
£4000	8% decrease	?

A percentage decrease of 8% means going from 100% to 92%, which is a multiplier of 0.92:

$$4000 \times 0.92 = 3680$$

The sale price of the car was £3680

Eg 2:

Dave pays \$306.34 for his shopping, which includes a 6% sales tax. What was the price before tax was added?

Original Amount	Percentage Change	Final Amount
?	6% increase	\$306.34

To reverse a percentage increase of 6% I need to divide by the multiplier 1.06:

$$? \times 1.06 = 306.34 \Rightarrow ? = 306.34 \div 1.06 = 289$$

The price before tax was added must have been \$289

Eg 3:

Maria's hourly pay has increased from £8.00 per hour to £8.96. What was her percentage pay rise?

Original Amount	Percentage Change	Final Amount
£8.00	?	£8.96

The increase from £8 to £8.96 has a multiplier which represents the percentage increase:

$$8 \times ? = 8.96 \Rightarrow ? = 8.96 \div 8 = 1.16$$

The multiplier is 1.16 which means 116%. This means a percentage increase of 12%