Compound Percentages

Examples

① I invest £10000 in a fixed-rate bond for 6 years at 5% per year interest.
How much will I receive back after 6 years?

Multiplying factor to increase by 5% is 1.05

Answer is $£10000 \times 1.05^6 = £13400.96$

② A car depreciates (goes down in value) by 30% in its first year, and 15% in each of the next 4 years.
I buy a new car for £12000. How much is it worth after 5 years?

$$12000 \times 0.7 \times 0.85^4 = £4385$$

③ The population of a town increases by 30%, then decreases by 25%. What percentage has the population increased by overall?

$$P \times 1.3 \times 0.75$$
$$= P \times 0.975$$

(Trick question!) Population has <u>decreased</u> by 2.5%.