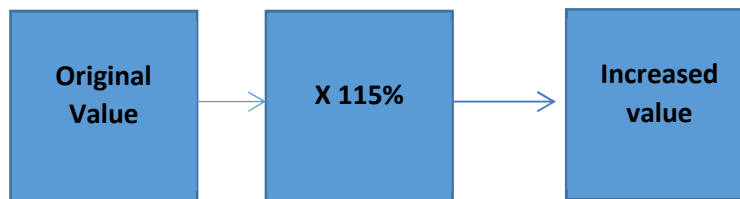


# Percentage Change

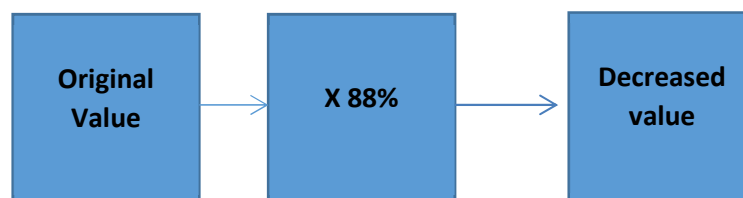
## Percentage Increase & Decrease

- Always treat the original quantity as 100%
- When a quantity has been ***increased*** by a given percentage, the outcome is ***larger*** than the original.
- So if a quantity has been increased by 15%, it becomes  $100\% + 15\% = 115\%$  of the original amount.



- Your Casio calculator has a % button, above the  button. So to increase £120 by 15% you would type:

- When a quantity has been ***decreased*** by a given percentage, the outcome is ***smaller*** than the original.
- So if a quantity has been decreased by 12%, it becomes  $100\% - 12\% = 88\%$  of the original amount.



- So to decrease 245kg by 12% you would type:

**Intermediate Tier Numeracy PPQs**

1. (a) *You will be assessed on the quality of your organisation, communication and accuracy in writing in this part of the question.*



Gemma bought a tablet last year for £240.  
She sold it to a friend after a year for 35% less than she paid for it.

She sees a new tablet on sale for £365 with a special offer of '20% off'.  
Gemma decides to use the money she has from selling her old tablet towards buying this new one.

How much extra will Gemma have to pay towards the new tablet using the special offer?

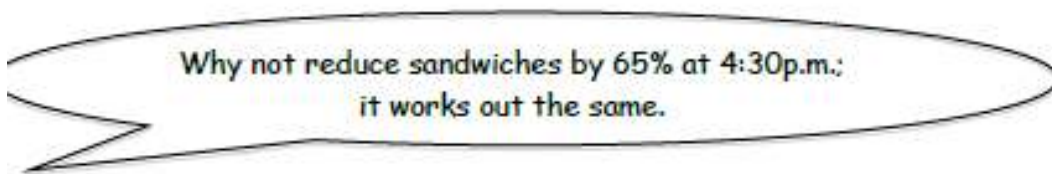
You must show all your working

[8]

2. Jane and Tomos own a sandwich business.

- (a) They decide to price sandwiches individually each morning.  
At 3 p.m. any unsold sandwiches are reduced by 45%.  
Any sandwiches still unsold by 4:30p.m. are reduced by a further 20%.

Jane says



Tomos disagrees with Jane.

Using multipliers, show that Jane is incorrect.

[4]

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**Intermediate Tier Numeracy PPQ**

3. (b) The television was reduced in the sale by 26% of its original price.  
It cost Marta £710.40 in the sale.  
What was the original price of the television?

[2]

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Original price £ .....

**Compound Percentages (Grade B)**

- If a quantity is being repeatedly increased/decreased over time, for example money earning annual interest payments in a bank account or a car losing value as it gets older, then the

***% multiplier is raised to the power of the time period***

Sounds complicated, but it isn't!

- **A bank pays 1.8% pa interest on its savings accounts. If I pay £10 000 into the account, how much will it be worth in 8 years?**



