Friday – Percentage Word Problems

When completing word problems it is always important to think…

Read – Read the question at least once- you can underline key information

Understand – what is the question asking you to find out?

Calculate – what method/s is/are appropriate?

Solve – carry out your method

Answer – give your answer in the correct units

Check – Can you estimate your answer – does yours seem reasonable or clos? Review your calculation to make sure there are no mistakes

Remember – Word problems can require multiple steps.

Example

A sunflower is measured at the beginning of June and is 40cm tall. The sunflower grows by 25% each month for three months. What height is the sunflower to the nearest centimetre at the beginning of September?

Step 1 – find out what 25% increase of 40 is.
25% of 40 = 10
June → July it has grown by 10cm – so new height is 50cm

Step 2 – find out what 25% increase of 50 is.
25% of 50 = 12.5
July → August it has grown by 12.5cm – so new height is 62.5cm

Step 3 – find out what 25% increase of 62.5 is
10% = 6.25
20% = 12.5
5% = 3.125
25% = 15.625
August → September it has grown by 15.625cm – so new height is 78.125cm

The question asks us to give our answer to the nearest centimetre so I look at the tenths which is 1. I know I need to round down, so my answer is 78cm.

1. A supermarket stocks 300kg of potatoes. 25% of the potatoes are sold in 5kg bags. The rest are sold in 1.5kg bags. What mass of potatoes are sold in 1.5kg bags?

2. Some children hold a bake sale for a local charity and raise £90. 10% comes from selling biscuits. 50% of the remaining money comes from selling chocolate cakes. How much is made from selling chocolate cakes?

3. A builder has 600kg of bricks delivered to build an extension to a house. 50% are used on the first day, and 25% are used on the second day. How many bricks are left after the second day?

4. Niamh enters the 500 words story competition. She writes 10% of the required words on the first day. How many words has she left to write?

5. A swimmer swims 800m every morning. She swims the first 50% of the distance on her front, and then 25% of the remaining distance on her back, before finishing on her front. How far does she swim on her back?

6. A farmer harvests 850kg of parsnips. 30% go to the local market and 50% go to a local supermarket. What mass of parsnips are left?

7. A plumber has 150m of pipes. The plumber uses 20% fitting a central heating system, and then 25% of what is left to fit a bathroom. How much pipe does the plumber use to fit the bathroom?

8. A library has 2500 books. 40% of the books are fiction. How many books are not fiction books?

Extension

1.A grocer has 160kg of onions. 50% of the onions are sold in 2kg bags. The rest are sold loose. 20% of the loose onions and 12 bags of onions are left at the end of the day. What percentage of onions were sold that day?

2. A bookshop has a stock of 11 240 books. 45% of the books are adult fiction and 20% are children's fiction. 480 fiction books are sold in one week, 50% of which are children's fiction. How many children's books will be left at the end of the week?

Answers

1. 225kg
2. £40.50
3. 150kg
4. 450 words
5. 100m
6. 170g
7. 30m
8. 1500 books

<u>Extension</u>
1. 75%
 2. 2008