

Weekly Quiz

Questions:

Week 6 – Solutions to the maths office by Thursday 14th October

1. What is the value of $2^{10} - 10^2$?
2. I am going to put a wire netting fence all around my garden which is a rectangle of size 14 m by 10m. The netting needs to be supported by posts at 2 m intervals. How many posts will I need?
3. Gus is older than Flora. Alessandro is older than Zara but younger than Flora. Oliver is younger than Gus but older than Zara. Yvette is younger than Gus. Alessandro is older than Oliver. Flora is younger than Yvette. Put these friends in order of age. Oldest first.
4. I shall be 11 next shortly – on October 17th. My sister was 7 recently - on July 29th. By how many days am I older than my sister? (You may think this is very much the same as a question from last week, but it does have an extra feature to it – can you spot it?)
5. The mass of an empty coal truck before it is loaded is 2000 kg. At the start of the day its load of coal made up 80% of the total mass. At the first stop, the driver unloaded a quarter of the coal. What is the mass of the coal on the truck as a percentage of the total mass after the first stop?

Weekly Quiz

Solutions:

Week 6 – 14/10/04

1. $2^{10} - 10^2 = 1024 - 100 = 924$
2. Rectangle 14×10 has total of 24 posts.
3. Gus
Yvette
Flora
Alessandro
Oliver
Zara
4. $21 + 31 + 30 + 17 = 99, 365 + 366 + 365 + (365 - 99) = 1362$ days
5. Truck is 2000 kg. Therefore coal must be 8000 kg as 80% of total mass.
First discharge 0.25 goes (2000 kg) i.e. leaving 6000 kg.
Mass of coal as % is $\frac{6000}{8000} \times 100 = 75\%$