

Sums. The're Math Magic

28 – Sum Christmas

Please go through each slide stopping until you have understood the concept described

Sums. They're Math Magic

28 – Sum Christmas



The world's human population is about 8 billion of which about 2 billion children live in about 1 billion homes.

How long does Santa have to visit each home?

Does he have to travel faster than the speed of light?

Hints: Speed of light is just under 300,000 Km/Sec. On average the distance up the chimney to the next home and down the chimney is about 60metres.

Sums. They're Math Magic

28 – Sum Christmas

How long does Santa have to visit each home?

Because Santa has to travel all around the world in one night he has 24 hours to deliver all the presents to every home.

There are 86,400 seconds in a day.

So Santa has 86,400 divided by 1 billion seconds.

So he has 86.4 microseconds between each home.

Does he have to travel faster than the speed of light?

He travels 60M in 86.4microseconds = 694,444 M/Sec = just over 694Km/Sec or 2,500,000Km/Hour.

This is far less than the speed of light which is just under 300,000Km/Sec.



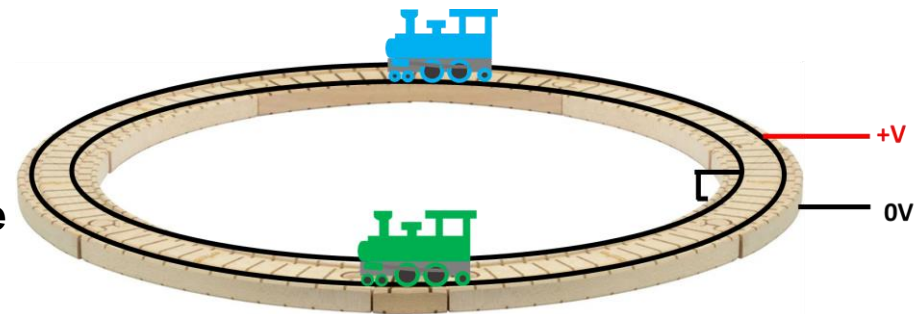
Sums. The're Math Magic

28 - Sum Christmas

Train Sets

Twin brothers were given train sets for Christmas.

They were identical except one engine was blue and the other green.



Apply the voltage to the right wheels and they go forwards, to the left wheel and they go backwards at the same speed.

They decided to test them but putting them on opposite sides of their 2M diameter circular track facing each other.

Then they turned on the power.

How long before they crashed?

Hint: Use $\pi = 3.14$

Sums. The're Math Magic

28 – Sum Christmas

Train Sets

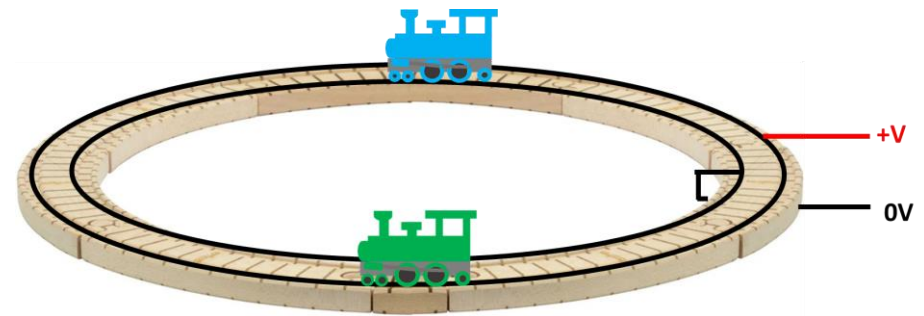
“I cannot work it out because you did not tell us the speed of the engines!”

Wrong!!

They should never collide.

When the power is applied to the rails one engine will go forwards, the other backwards

And because they are identical – at the same speed.



Sums. The're Math Magic

28 – Sum Christmas

Sugarplum Mary

Each of Santa's elves works 8 hour a day except for weekends. They have six weeks holiday each year but they take it immediately after Christmas.

She loves the sun and, this year, goes to the beautiful Aramoana Beach on New Zealand South Island.

Santa is very kind, so after he sleeps throughout Christmas Day and Boxing Day to recover from his travels, he takes the Elves to their holiday destination on his sleigh.

Sugarplum Mary helps by making sweets.

She takes 40 minutes to make 10Kg of sweets.

How many 200gram sweet packets can she make before next Christmas?

Sums. The're Math Magic

28 – Sum Christmas

Sugarplum Mary

Sugarplum Mary works for 46 weeks each year because she has 6 weeks statutory holiday.

She works five days a week for eight hours each day, so she works for 1,840 hours.

Every 40 minutes she makes 10Kg so she makes 15Kg each hour.

So she makes 27.000Kg in a year.

Each packet of sweets weighs 200g so

Mary makes 138,000 sweet packets each year.

**Want to hear my
fantastic Christmas
joke?**

**It's a
cracker**



$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \end{array} \quad \begin{array}{l} \sqrt{4} = 2 \\ \sqrt{9} = 3 \\ \sqrt{16} = 4 \\ \sqrt{25} = 5 \\ \sqrt{36} = 6 \end{array}$$



Sums. They're Math Magic

28 - Sum Christmas

Please go to the next lesson.

Sum Calculus

Which TV
Programme did
Santa's reindeer
win?

