A Christmas Reality

Santa Claus is supposedly getting ready to visit the children of the world with his reindeer. How can this be?

First point. No known species of reindeer can fly. It is estimated that there are 300,000 species of living organisms yet to be classified, and while most of these are insects and germs, this does not COMPLETELY rule out flying reindeer which only Santa has reputedly ever seen.

Second point. It has been estimated that there are 2 billion children (persons under 18) in the world. If Santa didn't visit all the households in the world and for the point of the exercise we will say he only visits those countries where he is really promoted. If we accept that, then that would reduce the workload to 15% of the total – which would be 378 million according to the Population Reference Bureau. At an average (census) rate of 3.5 children per household, that's 91.8 million homes. One presumes there's at least one good child in each home.

Third point. Santa has 31 hours of Christmas Eve to work with, thanks to the different time zones and the rotation of the earth, assuming he travels east to west (which seems logical). This works out to 822.6 visits per second. This is to say that for each household where there have been presumably good children, Santa has 1/1000th of a second to park the sleigh, hop out of the sleigh, and jump down the chimney, again assuming there is a chimney. If there is no chimney he has to get off the roof and through the front door and be alert for dogs etc. Fill the stockings, distribute the remaining presents under the tree, and eat whatever snacks have been left and to drink what has been left for him. Apparently, 50% of households leave alcohol of some sort which contributes to the problem of him maintaining the necessary momentum to get the job done. He then needs to get back up the chimney, get back into the sleigh and move on to the next house.

Assuming that each of these 91.8 million stops is evenly distributed around the earth (which, of course, we know to be false but for the purposes of our calculations we will accept), we are now talking about 1.25 kilometres per household, a total trip of 121.5 million kilometres, not counting stops to do what most of us must do at least once every 31 hours, of course, this is assuming his prostate is in excellent condition. And not taking into account the amount of alcohol he has consumed which as we know contributes to the need of relieving your bladder more often regardless of the state of your prostate.

Fourth point. Santa's sleigh has to be moving at a rate of 1,046 kilometres per second, 3,000 times the speed of sound. For purposes of comparison, the fastest man-made vehicle on earth, the Ulysses space probe moves at a poky 44 kilometres per second - a

conventional reindeer can run, tops, 25 kilometres per hour. Are you starting to get the picture here?

Fifth point. The payload on the sleigh adds another interesting element. Assuming that each child gets nothing more than a medium-sized Lego set (700 grams), the sleigh is carrying 321,300 tonnes, not counting Santa, who is invariably described as overweight. On land, conventional reindeer can pull no more than 135 kilograms. Even granting that "flying reindeer" (see first point) could pull TEN TIMES the normal amount, we cannot do the job with eight, or even nine.
We need 214,200 reindeer. This increases the payload - not even counting the weight of the sleigh - to 353,430 tonnes. Again, for comparison - this is four times the weight of the Queen Elizabeth (the ship that is - not the Monarch Queen Elizabeth).

Sixth point. 353,000 tonnes travelling at 1,046 kilometres per second creates enormous air resistance - this will heat the reindeer up in the same fashion as a spacecraft re-entering the earth's atmosphere. The lead pair of reindeer will absorb 14.3 QUINTRILLION joules of energy per second each. In short, they will burst into flame almost instantaneously, exposing the reindeer behind them, and creating deafening sonic booms in their wake. The entire reindeer team will be vaporized within 4.26 thousandths of a second. Santa, meanwhile, will be subjected to centrifugal forces 17,500.06 times greater than gravity. A 125 kilogram Santa (which seems ludicrously slim) would be pinned to the back of his sleigh by 2,250.7 kilograms of force. This would reduce him to a piece of red jelly or similar to the consistency of blubber before being vaporised! The sight of this happening across our sky is a shocking thought really but a reality if it were at all true. The children of the world would be severely traumatised by this sight. So do you get it now? The story of Santa is sad to say, just not true.

Then of course we could tackle the question about the "Tooth Fairy"