

12 Days of Christmas Maths Puzzles

Day 1: At the North Pole, there is square with four towers located in the corners of the square. Every tower has four windows, so Elves can look out at the four sides of the World. How many windows have these towers together?



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Day 2:

Elves decided to play a hockey match. For this purpose, they built a rink 15m wide and 30m long. Calculate the surface area of this ice rink and the length of the tinsel needed to go around its perimeter fence.



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Day 3:

Santa Claus divided 32 lollipops between three brothers. The eldest brother got twice as much as each of his brothers. How many lollipops did the oldest brother get?



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Day 4:

At the North Pole, a minute of a telephone conversation costs €0.75. How much does one hour of conversation cost?



Day 5:

Elves, to get into the chamber where the magic powder is stored, must enter the code. Today's code is a number that satisfies the equation below.

$$\text{🎄} + (\text{🎄} \times \text{🎄}) = 72$$

Can you find the number hidden behind the tree?
It is the same number behind every tree.
Can you enter the chamber today?



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Day 6:

Elves: Wink, Yule and Zippy are brothers. When you add their ages together you get 26. What number will you get if you sum up their ages in three years' time?



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Day 7:

If Santa drinks a glass of milk in every fourth household in Ireland (1,200,000 households) and a glass has a quarter of a litre capacity. How many litres of milk does Santa drink in total?



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Day 8: In the Santa storage hall, cardboard boxes are stored such that in a big box there are two large boxes, each containing three smaller ones, and in each smaller box there are four tiny boxes. How many boxes are in one big box?



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Day 9: Santa met twin brothers, Ethan and Evan, at the crossroads. One brother always tells the truth and the other is always lying. One of the roads leads to the city, where thousands of kids are waiting for Christmas presents. The other leads to the swamp. Santa can only ask one question and to one brother only. What question should he ask?



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Day 10: Before Christmas, Santa wants to divide all the Elves from one of the Toy Factories into smaller groups. First, he tried to divide them into groups of 4, then into groups of 3, and finally into groups of 2. Each time there was 1 Elf left over. How many Elves does Santa have?



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Day 11:

Every year, Santa gets tons of letters from children from all over the world. One year, he got a letter from a boy who loved maths riddles and described his age using one: “One quarter of my age added to the third part of my age is one year more than half of my whole life” Santa is a big fan of riddles himself and decided to give the boy an extra box of chocolates. Do you know how old is the boy?



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Day 12:

At the North Pole, the Present Factory's hall is illuminated by 20 lamps, numbered 1 to 20. The lighting control panel contains three buttons. The first one controls the even numbered lamps, the second controls the lamps with a number divisible by 3, the third one – lamps with a number divisible by 5. If you press the button once, it turns the light on. If you press it once again, it turns it off. Initially all the lights are off. How many of them will light up when we press all three buttons, one after another?

