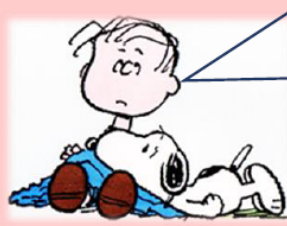














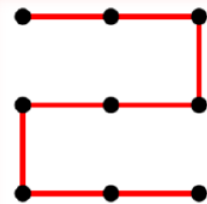
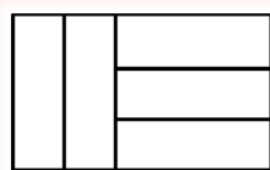

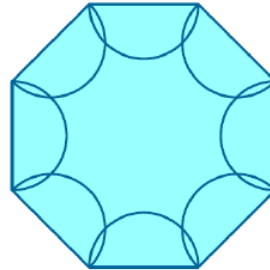
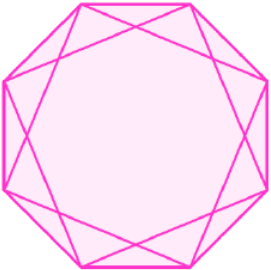



MAY

| MONDAY | TUESDAY | WEDNESDAY |
|--|---|---|
| 1  | 2 Dani mixed concentrated orange juice with 50% water in a pitcher. Aitana drank half of the mixture and to hide it, she filled the pitcher with water. Then came Aitana, who drank half of it and covered it up again by filling the jug with concentrated orange juice. What fraction of the liquid is now water? | 3 Aitana has written all the natural numbers from 100 to 199, both inclusive, and Laia has deleted all the digits that are prime numbers. How many digits has Laia erased?  |
| 8 Obviously, $10 = 5 \cdot 2$. How many two-digit numbers are the product of two single-digit numbers?  | 9  | 10 The operations are well done. Different letters represent different numbers. Find the value of each letter $\begin{array}{r} A M O \\ A \\ + A D A N \\ \hline O N D A \end{array} \quad \begin{array}{r} A M O \\ A \\ + H A D A \\ \hline M I M O \end{array}$ |
| 15  | 16 Dani plays with her hourglasses that are all thirty minutes long. He flips one and every eight minutes he flips a new clock. Just when he is up forty-seven minutes, how many clocks will still have sand not falling to the top? | 17 When Rafa goes on the highway he drives at 120 km/h and when he goes on the national road he goes at 90 km/h. Today he has travelled 560 km in 5 hours. How long is it on the highway?  |
| 22 What is the product of the largest 6-digit multiple of 17 and the smallest 6-digit multiple of 31?  | 23  | 24 Dani, Laia and Aitana play with two-digit numbers. Each one writes a couple of them and communicates only one of the two. Dani communicates on the 14, Laia on the 20 and Aitana on the 36. And what are the coincidences, the three products of each pair give the same result! What are the numbers not communicated by Dani, Laia and Aitana? |
| 29  | 30 Laia and Aitana each write a 3-digit number; Ferran and Carles each write a single-digit number and Dani writes a 9. Adding them all together gives 2022. How much do all the digits of the five relatives' numbers add up to? | 31 There are 8 red balls, 10 black balls, and 12 blue balls in a bag. We extract balls one by one and without looking inside the bag, how many do we have to extract to ensure that we have 2 red ones?  |

| THURSDAY | FRIDAY | SATURDAY | U |
|--|--|--|-----------|
| 4 Laia picked a basket of oranges from the family garden. She gave half to Dani, 3 oranges to Aitana, 4 to Carles and kept 6 for herself. How many oranges did Laia pick?  | 5  | 6 Laia and Aitana jump rope, but at different rates. For every two jumps that Laia makes, Aitana makes seven. The two begin to jump at the same time and when Laia has made a hundred jumps she stops, while Aitana has continued and has made fifty more jumps. How many jumps has Aitana made in total? | 7 |
| 11  | 12 MATH DAY Noa is very small. He eats every four hours and poops every eighteen. On Monday at 10 the terrible moment occurred in which he did both things at the same time, which scared her mother, Tània, very much. When will both events coincide again for the first time? | 13 We start with the numbers: 1, 2 and 3. The fourth number is the sum of the previous three: 6 and the fifth, the sum of the previous three: 11. If we continue like this, what number will occupy the twentieth position?  | 14 |
| 18 What is the smallest 7-digit number that is a multiple of 73? What about the largest 7-digit multiple of 73?  | 19  | 20 Aitana wants to put an unlock key on her mobile that meets these conditions: She has to start at the top left corner, she has to go through the 9 points without ever crossing any previous path and all the lines have to be horizontal or vertical, but they are not worth oblique's. Here we show you a possible key. How many different keys does Aitana have to choose from? | 21 |
| 25  | 26 Laia and Aitana are designing a flag with five stripes: two vertical and three horizontal, and they can use the colours green, red and blue. If two stripes that touch are prohibited from having the same colour, how many flags are possible? | 27 Is the number that results from multiplying by 10101 the number formed by two hundred fives a multiple of three?  | 28 |
|  |  |  | |