1. What is the value of $1 + 2 \cdot 3$?

2. Alex the Katz is in the forest collecting flowers. Each flower has 7 petals, and in his final collection he sees 1001 petals. How many flowers did he collect?

3. Banach and Tarski created a machine that can duplicate apples! If they put in an apple, it will clone it in 30 minutes. How long will it take to clone 36 apples, in hours?

4. What is the closest integer to 169 that is divisible by 9?

5. What is the value of $\dfrac{3+6+9}{2+4+6} - \dfrac{2+4+6}{3+6+9}$, expressed as a simplified fraction?

6. What is the probability that a randomly chosen word of this sentence has exactly four letters?

7. What is the value of $0.123 + 0.231 + 0.312$?

8. 5 years ago, my brother was half my age. If I am now 13 years old, how old is my brother?

9. A hedgehog has 4 friends on day 1. If the number of friends he has increases by 5 every day (so that on day 2 he has 9 friends, on day 3 he has 14, and so on), how many friends will he have on day 6?

10. Cosmo and Waffles are Leo's dogs. Every time Leo says "Cosmo," Cosmo barks, and every time leo says "Waffles," Waffles barks. Finally, every time Leo says "Puppies," both of them bark. Yesterday, Bruce heard Leo say 15 words, and heard the dogs bark a total of 22 times. How many times did Leo say "puppies"?

11. The length of a rectangle is twice its width. If the width of this rectangle is 3, what is the area of the rectangle?

12. If I add 21 to $\dfrac{1}{4}$ of a number, the result is $\dfrac{3}{5}$ of the number. What is this number?

13. In a classroom there are girls, boys, and teachers. There are twice as many teachers as girls, there are 6 more boys than girls, and there are 38 people in the room in total. How many total children are in the room?

14. At a school, there are two language courses offered: French and Spanish. 27 students take French and 32 students take Spanish. Five students take both French and Spanish. How many of these students take exactly 1 language course?

15. Define $x \blacksquare y$ to be $xy - \frac{y}{x}$. Compute $3 \blacksquare (2 \blacksquare 2)$.

16. Two angles of a triangle are $33°$ and $67°$. What is the measure, in degrees, of the triangle's third angle?

17. Let p_k denote the k-th smallest positive prime number. Compute $p_1 + p_2 + \cdots + p_7$.

18. How many digits could possibly be the last digit of a perfect square?

19. If 2 darps equals 4 derps, and 3 derps equals 5 dirps, then how many dirps equals 6 darps?

20. A cubic storage box has a surface area of 294. What is the length of an edge of this box?

21. 5 consecutive integers sum to 210. What is the largest of the 5 integers?

22. The length of Alex's rectangle is three times the length of Kelvin's rectangle, and the width of Alex's rectangle is three times the width of Kelvin's rectangle. If the area of Kelvin's rectangle is 12, what is the area of Alex's rectangle?

23. Alex the Kat has written 61 problems for a math contest, and there are a total of 187 problems submitted. How many more problems does he need to write (and submit) before he has written half of the total problems?

24. A seal swims at 6 miles per hour for 6 miles and then at 12 miles per hour for 4 miles. What is his average speed, expressed as a decimal?

25. There are two kinds of peaches: big peaches and little peaches. Big peaches weigh 8 pounds, while little peaches weigh 4 pounds. If I have a pile of peaches that weighs 252 pounds, what is the smallest number of peaches that can be in the pile?

26. A parrot learns 5 words in the first hour, and every hour thereafter learns twice as many words as it did in the previous hour. For example, in the second hour it learns 10 new words, in the third it learns 20, and so on. How many words will the parrot know after the end of the 7th hour?

27. George the sailor and his friends, Zeke and Jani, have 38 tattoos in total. If George has 5 more tattoos than Zeke and 7 less than Jani, how many tattoos does George have?

28. Jala has a circular garden with a radius of 6 units. She builds a circular path all around this garden with a width of 3 units. In terms of π, what is the area of the path?

29. Three apples weigh the same as one pineapple, four cherries weigh the same as one peach, and seven cherries and a pineapple weigh the same as four apples and one peach. How many cherries weigh the same as one pineapple?

30. Rita the painter rolls a fair 6-sided die that has 3 red faces, 2 yellow faces, and 1 blue faces. Rita rolls the die twice and mixes the colors that the die rolled. What is the probability she has mixed the color purple?

31. The sum of two integers is 8. The sum of the squares of those two integers is 34. What is the product of the two integers?

32. A class of 12 students score an average of 65 points on a 100-point test. When a new student joins the class and takes the test, the class average becomes 66. What did the new student score on the test?

33. Alex the Kat has written 63 problems for a math contest. He observes that if he submits another 63 problems, he will have written half of the total number of problems. What fraction of the problems has he written now?

34. Young Guy walks at a speed of 3 feet per second. When he decides to chase someone, he runs at 7 feet per second. On Monday, Young Guy went for a stroll, walking 42 feet from his house. He then spotted Arjun, and decided to chase him back all the way to his (Young Guy's) house, covering the same 42 feet. What was Young Guy's average speed (in feet per second) over the entire journey?

35. If 2 people can pick 2014 pears in 19 days, how many pears can 19 people pick in 2 days?

36. Levs farm has alpacas and 2-headed chickens. One day, Lev counts 94 heads, and 238 legs (alpacas have 4 legs, while chickens have 2). How many animals does Lev have on his farm?

37. What is the sum of all positive integers n, less than 2014, such that n is both a perfect square and a perfect cube?

38. An isosceles triangle has side lengths $x - 4, 2x - 9$, and $3x - 15$. Find the sum of all possible values of x.

39. A sea otter is eating sea urchins. If 10 sea otters eat 36 sea urchins in 4 hours, how many sea urchins can 5 sea otters eat in 6 hours?

40. Andy has two cubes. The surface area of his first one is equal to the volume of his second one, and the volume of his first one is 32 times the surface area of the second one. What is the ratio of the side-lengths of his first cube to his second one?

41. What is the least number of people in a room necessary to **guarantee** some two of them were born on the same day of the week?

42. To accomodate a party of 42 math teamers, the restaurant staff put n square 4-person tables together, as shown. If there were exactly enough chairs for the 42 people, how many tables did the staff use?
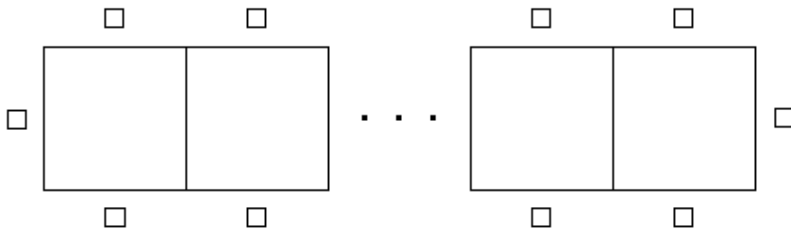
43. The side length of a cube is increased by 20%. The surface area of the cube then increases by $x\%$ and the volume of the cube increases by $y\%$. Find $5(y - x)$.

44. When two dice are rolled, what is the probability that the product of the faces shown is a prime number?

45. If a triangle has three altitudes of lengths 6, 6, and 6, what is its perimeter?

46. John bikes for two miles at the rate of 10 miles per hour, then swims for 3 miles at the rate of 12 miles per hour. He then walks one mile. If his average speed for the entire trip was 6 miles per hour, how many minutes did he spend walking?

47. There are 3 values of x such that the mean (average) and median of the numbers 2, 4, 7, 11, x are equal. Find the sum of these 3 values.

48. Lev and Alex are racing on a number line. Alex is much faster, so he goes to sleep until Lev reaches 100. Lev runs at 5 integers per minute and Alex runs at 7 integers per minute (in the same direction). How many minutes from the **start** of the race will it take Alex to catch up to Lev (who is still running after Alex wakes up)?

49. 4 distinct girls and 3 distinct boys line up in a row. What is the probability that nobody is standing next to someone of the same gender?

50. Young Guy likes to make friends with numbers, so he calls a number "friendly" if the sum of its digits is equal to the product of its digits. How many 3 digit friendly numbers are there?