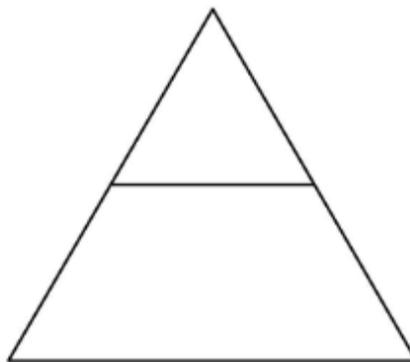
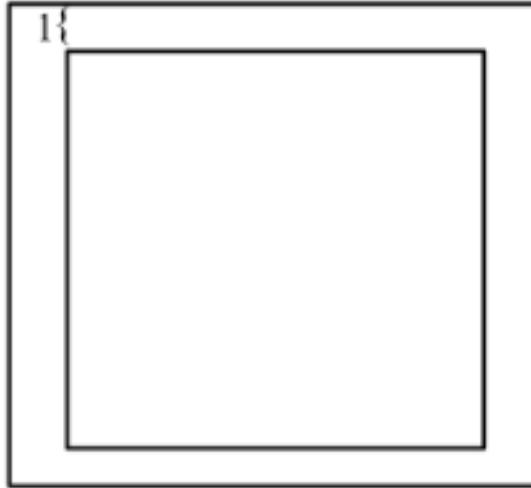


1. Compute $2^0 + 1 - 9$.
2. Alexa ordered 3 apples. John, who is feeling quite hungry today, ordered 5 times as many apples as Alexa. How many apples do they have in total?
3. If water flows through a pipe at a rate of 4 liters per minute, how many liters of water will flow through the pipe in 15 minutes?
4. If you fold a paper in half 5 times, what is the fraction of its final area to its initial area?
5. Find the positive difference between the first 3-digit square number and the first 2-digit square number.
6. There is a 9×8 checkerboard with only alternating white and black squares. How many of these squares are black?
7. Sean, Jeffrey, Tanush, and Brian all wish to see a show, but they only have two tickets. In how many ways can they decide who goes to the show?
8. Eric runs 8 laps in 3 minutes. If he doubles his speed, how many minutes will it take him to run 12 laps?
9. A woc is equivalent to 4 gips. A gip is equivalent to 5 tacs. Parth is 7 gips, 3 wocs, and 9 tacs tall. What is his height, in tacs?
10. A lily is in a pond, and each day the lily grows. More specifically, the area that the lily takes up in the pond doubles after every day. If it takes 32 days for the lily path to cover the entire lake, how many days would it take for it to cover half of the lake?
11. Define the function $a!b = a \times b + 3$. Find x if $(2!9)!x = 66$.
12. A circle with an area of 5 and a square with an area of 7 overlaps in a certain area. If the area of the circle outside the overlapping area is 3, then what is the area of the square outside the overlapping area?
13. How many 3-digit numbers do not contain 0?
14. What is the smallest positive whole number one could multiply with 53235325884 such that the product is divisible by 9?
15. An equilateral triangle is cut into two pieces along the midpoint of two of the sides. What is the ratio of the area of the remaining trapezoid to the area of the original equilateral triangle?



16. I flip a coin. If it's heads I win. If it's tails, I roll a dice and win if the number is more than 4. What is the probability I win?
17. A square photo has a border of length 1 as shown below. The border itself (not including the photo) has an area of 32. What is the side length of the photo, not including the frame?



18. The product of two positive real numbers is equal to twice their quotient. What value must one of the numbers be?
19. Amol and Nathan are trying to finish grading their stack of SBMT tests. Nathan is more experienced, so he will grade twice as fast as Amol. However, Nathan needs to leave after 3 hours. Given that the stack of papers was graded in 5 hours, and Amol graded 120 papers, how many papers were there to start with?
20. Consider any positive 3-digit number that has a difference of 495 when the same number when the digits are reversed is subtracted from it. Compute the difference between the first and last digit of the 3-digit number.
21. Robert is currently at $(0, 0)$ on the South Bay Coordinate Plane. He needs to get home, which is located at $(4, 4)$, but there is a mob at $(1, 2)$. How many ways can he safely get home while avoiding the mob assuming he can only move one unit to the right or one unit up at a time?
22. Edwin knows two words: "What" and "No". How many sentences (must contain at least one word) can he create with less than 6 words.
23. Triangle ABC is a right triangle with $AB = 3$, $BC = 4$, and $AC = 5$, and you spin the triangle around side BC. Find the volume of the resultant shape.
24. A right triangle is inscribed into a circle of diameter 10. What is the largest possible area of this triangle?
25. How many factors does the product of all factors of 6^4 have?