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1. Find the value of $1 - \frac{1}{10} - \frac{1}{100} - \frac{1}{1000} - \frac{1}{10,000} - \frac{1}{100,000} - \frac{1}{1,000,000}$.
 2. The water in a rectangular tank reaches the brim after a number of identical cubes are put in. When one of the cubes is removed, the water level drops by 0.5cm , leaving 98% of the capacity of the tank filled. If the volume of the water drops to 88% of the capacity of the tank after all the cubes are removed, leaving only 9504cm^3 of water in the tank, find the length of each cube.
 3. A primitive Pythagorean triple is $\{a, b, c\}$ where $a^2 + b^2 = c^2$ for integers a, b and c which have no common factor. One example is $\{3, 4, 5\}$. Can a primitive Pythagorean triple contain three odd numbers? Why or why not?
 4. If the number N is a 5-digit prime number, which of the following *might* be a prime number?
 - (A) $N - 2$
 - (B) $N + 31$
 - (C) $3N + 18$
 5. Write the numbers 1,2,3,4 and 5 in every possible order to give 5 digit numbers. Find the sum of the resulting numbers.
 6. How many triangles can you form by connecting three of the given points?


The diagram shows 15 points arranged in a grid of 3 rows and 5 columns. The points are represented by small blue dots.
 7. Determine the remainder when $3^0 + 3^1 + 3^2 + \cdots + 3^{99}$ is divided by 7.