



Online Quiz #1 - Posted May 2020

Answers follow on next page.

1. A water tank is $\frac{1}{8}$ full. When 15 gallons of water are added to the tank, the tank is $\frac{3}{4}$ full. How many more gallons of water is needed to fill the tank?
2. When four fair, six sided dice are rolled there are 64 possible outcomes. In how many ways can the dice be rolled so that the sum of the numbers rolled is multiple of 10?
3. How many positive natural numbers are less than or equal to 64 and relatively prime with 64? Two numbers a and b are said to be relatively prime if their greatest common divisor is 1.
4. Using the digits 1,3,4,6 and 7, exactly once, create the largest odd number that is divisible by 3.
5. How many integers are between 101 and 1001 (including 101 and 1001) are divisible by 11?
6. The arithmetic mean of three numbers is 133. If the mean of the first two numbers is 126. What is the third number?
7. Find the remainder when 2^{495} is divided by 11.
8. What is the greatest whole number that must be a factor of the sum of any four consecutive positive odd numbers?
9. Find the smallest positive integer that is divisible by 17, and when divided by any integers from 2 to 16 (both inclusive) leaves a remainder of 1.
10. Write the binary number 101010101010 in a decimal form



Answers to Online Quiz #1

1. 6
2. 115
3. 32
4. 76431
5. 82
6. 147
7. 10
8. 8
9. 7207201
10. 2730

