

1. How many prime numbers are there between 50 and 60?
A) 0 B) 1 C) 2 D) 3 E) 4
2. How many even prime numbers are there?
A) 0 B) 1 C) 2 D) 3 E) many
3. How many divisors of 39 is a prime number?
A) 1 B) 2 C) 3 D) 4 E) 5
4. Which of the following is true about prime numbers?
A) all prime numbers are odd
B) there is no largest prime number
C) product of any two prime numbers is also prime
D) sum of any two prime number is odd
E) difference of any two prime numbers is even
5. Which of the followings is not true about prime numbers ?
A) 0 is not prime
B) a prime number has exactly two natural divisors
C) set of prime numbers is infinite
D) 1 is a prime number
E) there is no largest prime number
6. $360 = 2^x \cdot 3^2 \cdot 5$. What is x ?
A) 1 B) 2 C) 3 D) 4 E) 5
7. If the least common multiple of 3,5 and x is 270, then find the smallest possible natural value of x.
A) 18 B) 54 C) 90 D) 120 E) 135
8. A rectangular region has dimensions 320m and 360m. We want to divide it into square regions with greatest length of one side. What is the length of one side of such a square region ?
a) 20 b) 30 c) 40 d) 50 e) 60
9. If a field of rectangular shape has dimensions of 18m and 24m and if we want to divide it into square regions of one side with the greatest length, then which one of the following will be the number of the square regions inside the field?
A) 2 B) 3 C) 4 D) 12 E) 15
10. How many rectangles, with dimensions 6 cm and 15 cm, must be used in order to form a square with the smallest area ?
A) 6 B) 10 C) 12 D) 15 E) 18
11. The three different TV channels CNN, BBC and STV have advertisement films in every 15, 35 and 45 minutes, respectively. If the three TV channels have advertisement films at 13:00 o'clock, what will be the time, when they have advertisement films, again together?
A) 18:15 B) 19:00 C) 20:00 D) 16:15 E) 17:30
12. Which of the followings can be x if 15 and x are relatively prime numbers ?
A) 46 B) 45 C) 30 D) 5 E) 3
13. The numbers a and b are relatively prime numbers. If $a^b = 64$, then find the sum of the different values of $a \cdot b$.
A) 12 B) 24 C) 64 D) 70 E) 76
14. The numbers $2a - b + 3$ and $3b + 2 - a$ are relatively prime numbers. If $\frac{2a - b + 3}{3b + 2 - a} = \frac{46}{14}$, then find the sum $(a + b)$.
A) 6 B) 13 C) 15 D) 18 E) 19