

Name: _____

Grade: _____

Section: _____

School: _____

Prime and Composite Numbers

1. Write the first 3 prime numbers after 20
2. The prime number immediately before 99 is
3. Which is the smallest prime number?
4. How many even prime numbers are there?
5. List all the factors of 61 and conclude whether they are prime or composite.
6. Express 84 as the sum of twin prime numbers.
7. Are 53 and 55 twin prime numbers? If yes, why?
8. Identify the twin primes among the given pair of numbers:
(1, 3), (3, 5), (13, 19), (1, 2)
9. Is the number 1 composite? State Yes/No and give explanation for your answer.
10. Is 0 a composite number?
11. What is the sum of the smallest prime number and smallest composite number?
12. Write all composite numbers between 1 and 20.
13. What is the greatest prime number between 1 and 10?
14. What is the largest 2 digit composite number which is even?
15. Find 3 prime numbers which come immediately after 40.

Answers

1. 23, 29, 31
2. 97
3. 2
4. There is only one even prime number. It is 2.
5. 1 and 61. They are prime numbers.
6. $41 + 43$
7. 53 and 55 are twin primes because their HCF is 1.
8. As know that the number 1 is neither prime nor composite. Hence, we can ignore the pairs (1, 3) and (1, 2).
Twin prime numbers are the pair of prime numbers with a difference of 2.
The difference between (13, 19) is also a pair of prime numbers, in which the difference between them is not equal to 2. Hence they are not twin prime numbers.
Here, (3, 5) is a pair of prime numbers with a difference of 2 (i.e) $5 - 3 = 2$.
Hence, (3, 5) is a twin prime.
9. According to the definition, a composite number is a natural number which has more than two positive factors. But, 1 has only 1 factor i.e. 1 itself. So, 1 is not a composite number.
10. Zero is neither prime nor composite. Since any number times zero equals zero, there are an infinite number of factors for a product of zero. A composite number must have a finite number of factors. So 0 is neither prime nor composite.
11. $2 + 4 = 6$
12. 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20
13. 7
14. 98
15. To get prime numbers following any number x , use the formula $n^2 + n + x$. Hence in this case, prime numbers following 40 can be found as follows
For $n = 0$, $0^2 + 0 + 41 = 41$
For $n = 1$, $1^2 + 1 + 41 = 43$
For $n = 2$, $2^2 + 2 + 41 = 47$