

Mathematics

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(Chapter – 3) (Playing With Numbers)
(Class – VI)

Exercise 3.2

Question 1:

What is the sum of any two:

- (a) Odd numbers.
- (b) Even numbers.

Answer 1:

- (a) The sum of any two odd numbers is an even number.
Example: $1 + 3 = 4$, $3 + 5 = 8$
- (b) The sum of any two even numbers is also an even number.
Example: $2 + 4 = 6$, $6 + 8 = 14$

Question 2:

State whether the following statements are true or false:

- (a) The sum of three odd numbers is even.
- (b) The sum of two odd numbers and one even number is even.
- (c) The product of three odd numbers is odd.
- (d) If an even number is divided by 2, the quotient is always odd.
- (e) All prime numbers are odd.
- (f) Prime numbers do not have any factors.
- (g) Sum of two prime numbers is always even.
- (h) 2 is the only even prime number.
- (i) All even numbers are composite numbers.
- (j) The product of two even numbers is always even.

Answer 2:

- | | | | |
|-----------|-----------|-----------|-----------|
| (a) False | (b) True | (c) True | (d) False |
| (e) False | (f) False | (g) False | (h) True |
| (i) False | (j) True | | |

Question 3:

The numbers 13 and 31 are prime numbers. Both these numbers have same digits 1 and 3. Find such pairs of prime numbers up to 100.

Answer 3:

17 and 71; 37 and 73; 79 and 97

Question 4:

Write down separately the prime and composite numbers less than 20.

Answer 4:

Prime numbers : 2, 3, 5, 7, 11, 13, 17, 19
Composite numbers : 4, 6, 8, 9, 10, 12, 14, 15, 16, 18

Question 5:

What is the greatest prime number between 1 and 10?

Answer 5:

The greatest prime number between 1 and 10 is '7'.

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Question 6:

Express the following as the sum of two odd numbers:

- (a) 44 (b) 36 (c) 24 (d) 18

Answer 6:

- (a) $3 + 41 = 44$ (b) $5 + 31 = 36$
(c) $7 + 17 = 24$ (d) $7 + 11 = 18$

Question 7:

Give three pairs of prime numbers whose difference is 2.

[Remark: Two prime numbers whose difference is 2 are called twin primes.]

Answer 7:

- 3 and 5; 5 and 7; 11 and 13

Question 8:

Which of the following numbers are prime:

- (a) 23 (b) 51 (c) 37 (d) 26

Answer 8:

- (a) 23 and (c) 37 are prime numbers.

Question 9:

Write seven consecutive composite numbers less than 100 so that there is no prime number between them.

Answer 9:

Seven consecutive composite numbers: 90, 91, 92, 93, 94, 95, 96

Question 10:

Express each of the following numbers as the sum of three odd primes:

- (a) 21 (b) 31 (c) 53 (d) 61

Answer 10:

- (a) $21 = 3 + 7 + 11$ (b) $31 = 3 + 11 + 17$
(c) $53 = 13 + 17 + 23$ (d) $61 = 19 + 29 + 13$

Question 11:

Write five pairs of prime numbers less than 20 whose sum is divisible by 5. [Hint: $3 + 7 = 10$]

Answer 11:

- $2 + 3 = 5$; $7 + 13 = 20$; $3 + 17 = 20$; $2 + 13 = 15$; $5 + 5 = 10$

Question 12:

Fill in the blanks:

- (a) A number which has only two factors is called a _____.
(b) A number which has more than two factors is called a _____.
(c) 1 neither _____ nor _____.
(d) The smallest prime number is _____.
(e) The smallest composite number is _____.
(f) The smallest even number is _____.

Answer 12:

- (a) Prime number (b) Composite number
(c) Prime number and composite number (d) 2
(e) 4 (f) 2