

Chapter 13. Mathematical Reasoning

Question-1

All natural numbers are integers.

Solution:

It is a statement. Its truth value is T.

Question-2

A square has five sides.

Solution:

It is a statement. Its truth value is F.

Question-3

The sky is blue.

Solution:

It is a statement. Its truth value is T.

Question-4

How are you?

Solution:

It is not a statement. It is a question.

Question-5

$7 + 2 < 10$.

Solution:

It is a statement. Its truth value is T.

Question-6

The set of rational numbers is finite.

Solution:

It is a statement. Its truth value is F.

Question-7

How beautiful you are?

Solution:

It is not a statement. It is an exclamatory.

Question-8

Wish you all success.

Solution:

It is not a statement. It is a command.

Question-9

Give me a cup of tea.

Solution:

It is not a statement. It is a question.

Question-10

2 is the only even prime

Solution:

It is a statement. Its truth value is T.

Question-11

All the sides of a rhombus are equal in length.

Solution:

True.

Question-12

Write down the truth value (T or F) of the following statement:

$1 + \sqrt{9}$ is an irrational number.

Solution:

True.

Question-13

Milk is white.

Solution:

True.

Question-14

The number 30 has four prime factors.

Solution:

False.

Question-15

Paris is in France.

Solution:

True.

Question-16

$\sin x$ is an even function.

Solution:

False.

Question-17

Every square matrix is non-singular.

Solution:

False.

Question-18

Jupiter is a planet.

Solution:

True.

Question-19

The product of a complex number and its conjugate is purely imaginary.

Solution:

False.

Question-20

Isosceles triangles are equilateral.

Solution:

False.