4. Write the negation of the following simple statements

(i) The number 17 is prime.

Solution:

Negation of statement p is “not p.” The negation of p is symbolized by “~p.” The truth value of ~p is the opposite of the truth value of p.

The negation of the statement is “The number 17 is not prime”.

(ii) 2 + 7 = 6.

Solution:

Negation of statement p is “not p.” The negation of p is symbolized by “~p.” The truth value of ~p is the opposite of the truth value of p.

The negation of the statement is “2 + 7 ≠ 6”.

(iii) Violets are blue.

Solution:

Negation of statement p is “not p.” The negation of p is symbolized by “~p.” The truth value of ~p is the opposite of the truth value of p.

The negation of the statement is “Violets are not blue”.

(iv) √5 is a rational number.

Solution:

Negation of statement p is “not p.” The negation of p is symbolized by “~p.” The truth value of ~p is the opposite of the truth value of p.

The negation of the statement is √5 is not a rational number.

(v) 2 is not a prime number.

Solution:

Negation of statement p is “not p.” The negation of p is symbolized by “~p.” The truth value of ~p is the opposite of the truth value of p.

The negation of the statement is “2 is a prime number”.