

# NCERT Solutions for Class-XI Maths

## Chapter-14 Exercise-14.1 NCERT Math Class 11

1. Which of the following sentences are statements? Give reasons for your answer.

- (i) There are 35 days in a month.
- (ii) Mathematics is difficult.
- (iii) The sum of 5 and 7 is greater than 10 .
- (iv) The square of a number is an even number.
- (v) The sides of a quadrilateral have equal length.
- (vi) Answer this question.
- (vii) The product of  $(-1)$  and 8 is 8 .
- (viii) The sum of all interior angles of a triangle is  $180^\circ$  .
- (ix) Today is a windy day.
- (x) All real numbers are complex numbers.

1. (i) There are 35 days in a month.

**Explanation:-**

Since there are 28 or 30 or 31 days in a month.

It is a false Sentence

Hence it is a statement.

(ii) Mathematics is difficult.

**Explanation:-**

Mathematics is difficult for some but not for other.

Hence this statement can be both true or false.

So it is not a statement.

(iii) The sum of 5 and 7 is greater than 10.

**Explanation:-**

$5+7 = 12$  which is greater than 10

It is true

Hence it is a statement.

(iv) The square of a number is an even number.

**Explanation:-**

This sentence may be true or may not be.

For example  $2^2 = 4$ (even)

$$3^2 = 9(\text{odd})$$

Hence the square of a natural number may be even or may be odd.

Hence this is not a statement.

(v) The sides of a quadrilateral have equal length.

**Explanation:-**

Square is quadrilateral & has equal length (all four sides are equal). But, trapezium is quadrilateral which has unequal length.

(Only two sides are equal)

Thus, Sentence is sometimes true & sometimes false.

Hence it is not a statement.

(vi) Answer this question.

**Explanation:-**

Since it is order.

Hence it is not a statement.

(vii) The product of  $(-1)$  and  $8$  is  $8$ .

**Explanation:-**

It is false sentence.

Because product of  $(-1)$  &  $8$  is  $-8$ .

Hence it is a statement.

(viii) The sum of all interior angles of a triangle is  $180^\circ$ .

**Explanation:-**

This Sentence is always true.

Because the sum of interior angles of a triangle is  $180^\circ$ .

Hence it is a statement.

(ix) Today is a windy day.

**Explanation:-**

It is not clear which day is windy day.

So, it may be true or maybe false.

Hence it is not a statement.

(x) All real numbers are complex numbers.

**Explanation:-**

All real numbers can be written in the form of

$a + i0$  (when 'a' is real number)

So, all real numbers are complex numbers

Hence, it is always true.

Hence it is a statement.

2. Give three examples of sentences which are not statements. Give reasons for the answers.
2. The three examples of sentences, which are not statements, are as follows.

(i) He is a doctor.

It is not evident from the sentence as to whom 'he' is referred to. Therefore, it is not a statement.

(ii) Geometry is difficult.

This is not a statement because for some people, geometry can be easy and for some others, it can be difficult.

(iii) Where is she going?

This is a question, which also contains 'she', and it is not evident as to who 'she' is.

Hence, it is not a statement.



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