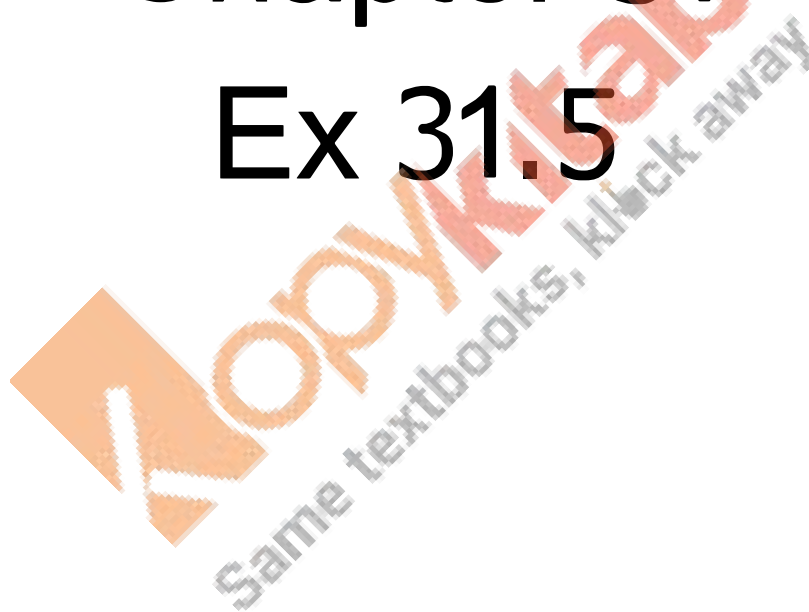


RD Sharma  
Solutions  
Class 11 Maths  
Chapter 31  
Ex 31.5



### Mathematical Reasoning Ex 31.5 Q1

- (i) If you access the website, then you pay a subscription fee.
- (ii) If it rains, then there is traffic jam.
- (iii) If you log on to the server, then you must have a passport.
- (iv) If he is happy, then he is rich.
- (v) If it is raining, then the game is cancelled.
- (vi) If it rains, then it is cold.
- (vii) If it rains, then it is cold.
- (viii) If it is cold, then it never rains.

### Mathematical Reasoning Ex 31.5 Q2

- (i) Converse: If you feel thirsty, then it is hot outside.  
Contrapositive: If you do not feel thirsty, then it is not hot outside.
- (ii) Converse: If I go to a beach, then it is a sunny day.  
Contrapositive: If I do not go to a beach, then it is not a sunny day.
- (iii) Converse: If an integer has no divisors other than 1 and itself, then it is prime.  
Contrapositive: If an integer has some divisors other than 1 and itself, then it is not prime.
- (iv) Converse: If you have winter clothes, then you live in Delhi.  
Contrapositive: If you do not have winter clothes, then you do not live in Delhi.
- (v) Converse: If the diagonals of a quadrilateral bisect each other, then it is a parallelogram.  
Contrapositive: If the diagonals of a quadrilateral do not bisect each other, then the quadrilateral is not a parallelogram.

### Mathematical Reasoning Ex 31.5 Q3

- (i) You watch television if and only if your mind is free.
- (ii) A quadrilateral is a rectangle if and only if it is equiangular.
- (iii) You get an A grade if and only if you do all the homework regularly.
- (iv) A tumbler is half empty if and only if it is half full.

### Mathematical Reasoning Ex 31.5 Q4

- (i) If Mohan is not poor, then he is not a poet.
- (ii) If Max does not study, then he will not pass the test.
- (iii) If she does not earn money, then she does not work.
- (iv) If then they do not drive the car, then there is no snow.
- (v) If it rains, then it is not cold.
- (vi) If it did not snow, then Ravish will not ski.
- (vii) If  $x$  is positive, then  $x$  is not less than zero.
- (viii) If he does not win, then he does not have courage.
- (ix) If he is not strong, then he is not a sailor.
- (x) If he tires, then he will not win.
- (xi) If  $x$  is even, then  $x^2$  is even.