Exercise 15C

Q1

Answer :

(i) Consider numbers 1, 1 and 1.

Clearly, $1 + 1 > 1$

$1 + 1 > 1$

$1 + 1 > 1$

Thus, the sum of any two sides is greater than the third side.

Hence, it is possible to draw a triangle having sides 1 cm, 1 cm and 1 cm.

(ii)

Clearly, $2 + 3 > 4$

$3 + 4 > 2$

$2 + 4 > 3$

Thus, the sum of any two sides is greater than the third side.

Hence, it is possible to a draw triangle having sides 2 cm, 3 cm and 4 cm.

(iii)

Clearly, $7 + 8 = 15$

Thus, the sum of these two numbers is not greater than the third number.

Hence, it is not possible to draw a triangle having sides 7 cm, 8 cm and 15 cm.

(iv) Consider the numbers 3.4, 2.1 and 5.3.

Clearly: $3.4 + 2.1 > 5.3$

$5.3 + 2.1 > 3.4$

$5.3 + 3.4 > 2.1$

Thus, the sum of any two sides is greater than the third side.
Hence, it is possible to draw a triangle having sides 3.4 cm, 2.1 cm and 5.3 cm.

(v) Consider the numbers 6, 7 and 14.
Clearly, $6+7 \not> 14$

Thus, the sum of these two numbers is not greater than the third number.
Hence, it is not possible to draw a triangle having sides 6 cm, 7 cm and 14 cm.

Q2

Answer :

Let the length of the third side be x cm.

Sum of any two sides of a triangle is greater than the third side.

$\therefore 5 + 9 > x$
$\Rightarrow x < 14$

Hence, the length of the third side must be less than 14 cm.

Q3

Answer :

(i) $>$
(ii) $>$
(iii) $<$

The reason for the above three is that the sum of any two sides of a triangle is greater than the third side.

********** END **********