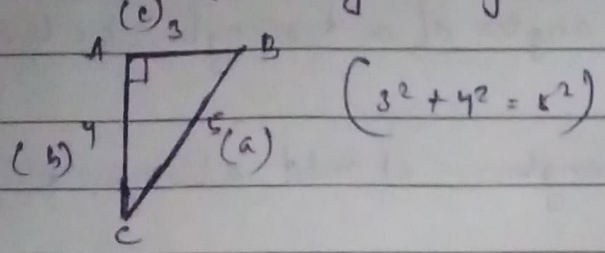
Home Assignment

(1) Can a triangle be formed by line segments of lengths a, b and c, such that $a > b - c$?

Ans- Lets take a right angled Δ as Ex :-



Let the side of the Δ are 3, 4 and 5.

According to the statement to be proved :-

$a > b - c$

$\Rightarrow 5 > (4 - 3)$

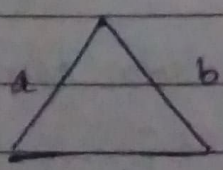
$\Rightarrow 5 > 1$ which is true.

∴ Hence a triangle can be formed by line segment of lengths a, b and c, such that $a > b - c$.

(2) Can a triangle be formed by line segments of lengths a, b and c, such that $a = b - c$?

Ans- ~~Lets take a right angled Δ as~~

Ans- Lets take a Δ whose sides are a, b and c.



Conditions required it to be a Δ :-

$\rightarrow a + b > c$

$\rightarrow a + c > b$

$\rightarrow b + c > a$

Given Condition to be proved :-

$a = b - c$

But according to rule, b+c should be greater than a. ~~not b-a should be greater than a~~.
∴ So, no triangle can be formed for the given a, b, c such that a = b-c.

Q3. The areas of parallelograms on the same base and between the same parallel lines are equal in area.

Q4. In a regular polygon, are all exterior angles equal?
Ans- Yes

Q5. Can the sum of the two angles of a triangle be less than the third angle?
~~Ans- No, the sum of the two angles should always be greater than~~
Ans- Yes. The sum of any 2 angles of a Δ, maybe equal, greater or less than the third angle.

Q6. If all the sides of a polygon are equal, then all its interior angles must be equal. Is the given statement true?
Ans- Yes, If all the sides of a polygon are equal then its a regular polygon. And all the interior angles of a regular polygon are equal.

Q7. If a circle passes through four points, then the four points are said to be concyclic

Q8. Two circles cannot intersect in more than two points. [True / False]

Q9. Two quadrilaterals of equal perimeters occupy equal areas. Is this statement always true?
Ans- No.