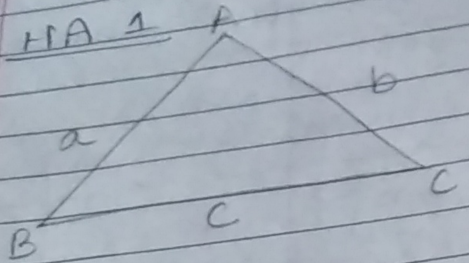
8/8/21 Lines & Angles

→ HA 1

1.



let, we have a $\triangle ABC$ where the side lengths are

$AB = a$

$ABC = b$

$AC = bc$

As we know that, a $\triangle$ can be formed if the sum of any two sides of that $\triangle$ is greater than the 3rd side. i.e,

~~Suppose~~ $a+b > c$

$a+c > b$ ✓

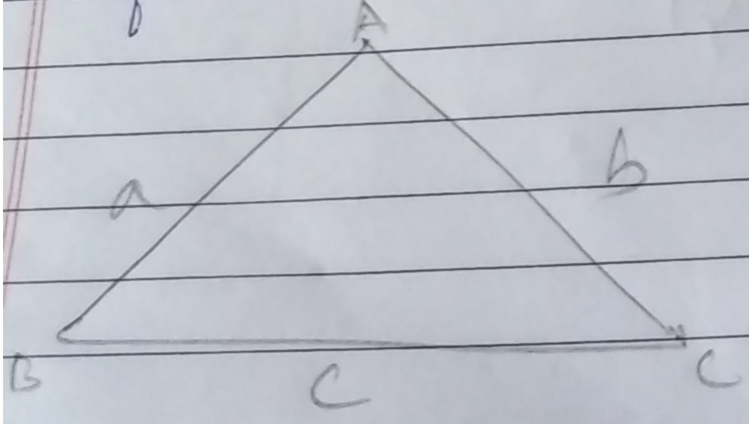
$b+c > a$

So, ~~AbQ~~ According to the condition given,

$a > b-c$

$\Rightarrow a+c > b$ ✓

∴ Hence, as this satisfies the ~~cor~~ condition to from a $\triangle$. Yes! we can form a $\triangle$ such that $a > b-c$ where a, b & c are length of the 3 sides of that $\triangle$.



let, we have a $\triangle ABC$ where

$AB = a$

$AC = b$

$BC = c$

As we know that, a $\triangle$ can be formed if the sum of any 2 sides of the $\triangle$ is greater than the 3rd side.

$a + b > c$

$b + c > a$

~~b~~ $a + c > b$

So, A/Q,

$a = b - c$

$a + c = b$

$\therefore$ Hence as it becomes equal so we can't form a $\triangle$ with $a = b - c$ (No!)

4. Yes!

5. No!

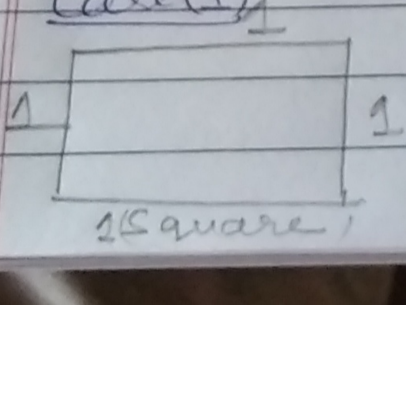
6. True!

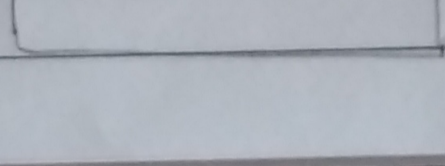
7. <u>Concyclic.</u>

8. True!

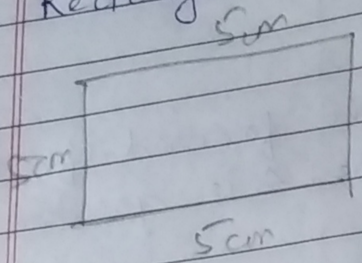
9. Let us suppose we have a Square and a Rectangle.

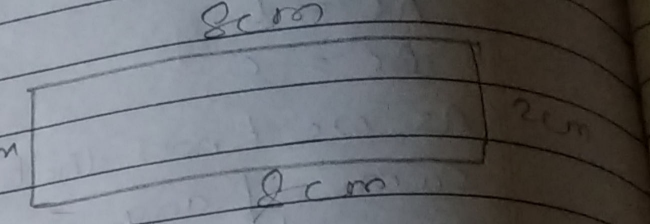
<u>Case(I)</u>





9. Let us suppose we have a square and a Rectangle.





Peri. of Sq. = (5+5+5+5)cm
= ~~20cm~~ OR
4(5) = 4(5)
= 20cm

Peri. of Rect. = 2(l+b)
= 2(8+2)
= 2(10)
= 20cm

∴ So, we can observe that perimeters can be equal of ~~any~~ 2 quadrilaterals.

Area of square = $(side)^2$
= $(5)^2$
= $25\ cm^2$

Area of Rect = l×b
= 8×2
= $16\ cm^2$

∴ So, Area of Sq ≠ Area of Rect.

∴ Hence, 2 quad. of equal perimeters can't occupy equal areas.
The statement given in the 'q' is False

3. Same in Area