

② Let  $a = 5\text{cm}$ ,  $b = 9\text{cm}$ ,  $c = ?$

$$b - a < c < a + b$$

$$9 - 5 < c < 5 + 9$$

$$4 < c < 14$$

③ In  $\triangle PAB$

$$PA + PB > AB$$

In  $\triangle PBC$

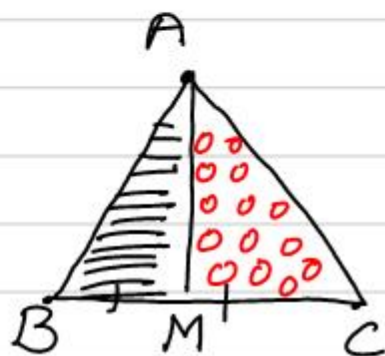
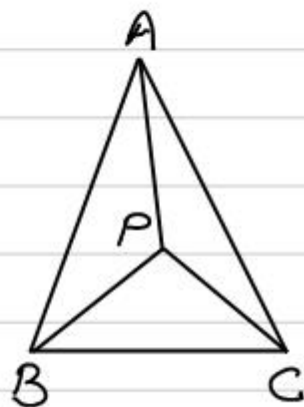
$$PB + PC > BC$$

In  $\triangle PAC$

$$AC < PA + PC$$

$\therefore$  Sum of any two sides of  $\triangle$  is greater than the third side.

4. Median - a line segment from a vertex of  $\triangle$  to midpoint of opposite side



to prove  $AB + BC + CA > 2AM$   
proof - In  $\triangle ABM$

$$AB + BM > AM \dots \textcircled{1}$$

In  $\triangle ACM$

$$AC + CM > AM \dots \textcircled{2}$$

$$\textcircled{1} + \textcircled{2}$$

$$AB + BM + CM + AC > AM + AM$$

$$AB + BC + AC > 2AM$$

[In a  $\triangle$  sum of any two sides is greater than the third side]