H.W
14.7.21

Date
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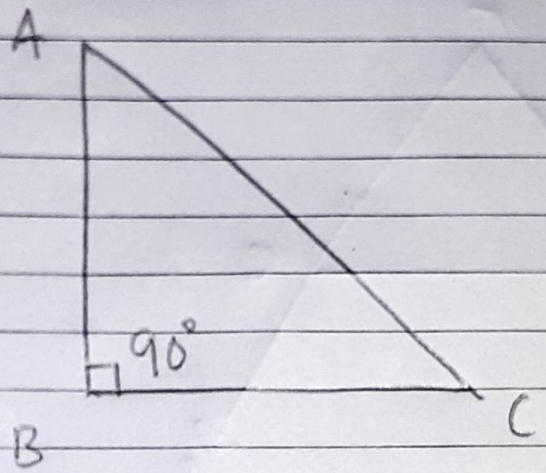
EX. 7.4

1. Ans:



Given :- ΔABC is a right-angled triangle, right angled at B i.e., $\angle B = 90°$

To prove :- AC is the longest side.

Proof :- In ΔABC

$\angle B = 90°$

$\Rightarrow \angle A$ & $\angle C$ must be acute.

$\angle B > \angle A$

$AC > BC$ ——— (i.) [sides opposite to greater angle is larger.]

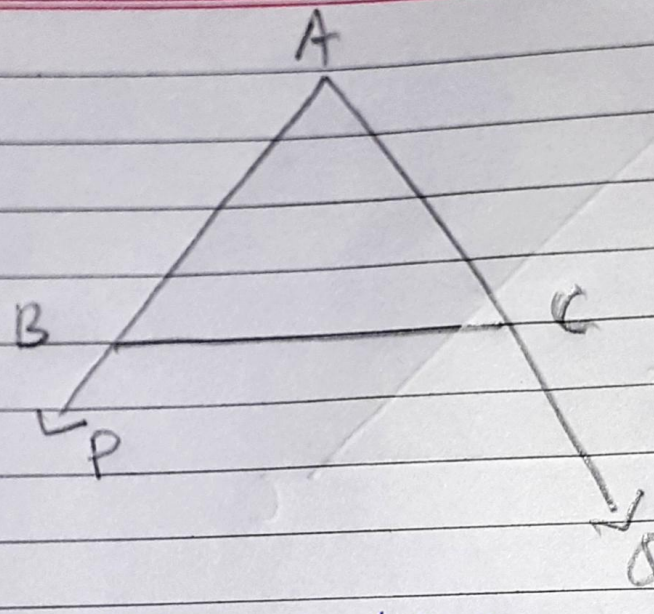
$\angle B > \angle C$

$AC > AB$ ——— (ii.) [sides opposite to greater angle is larger]

From (i.) & (ii.)

AC is the longest side. (proved)

2.



Ans- Given :- $\angle PBC < \angle QCB$

To prove :- $AC > AB$

Proof :- $\angle ABC + \angle PBC = 180^\circ$ (Linear pair)
$\angle ACB + \angle QCB = 180^\circ$ (Linear pair)

But $\angle PBC < \angle QCB$ (Given)
$\Rightarrow 180^\circ - \angle PBC > 180^\circ - \angle QCB$
$\Rightarrow \angle ABC > \angle ACB$
$AC > AB$ (proved)