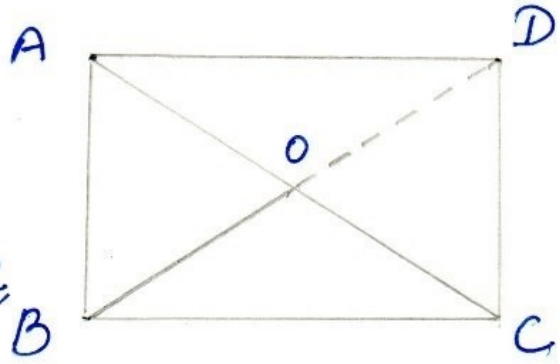
(6)



given - In $\triangle ABC$, $\angle B = 90^\circ$, O is midpoint of AC, OB is joined

to prove - $OA = OB = OC$

construction - produce BO to D, such that $OD = OB$, join DA and DC

proof In $\square ABCD$

$OA = OC$

$OB = OD$

$\therefore \square ABCD$ is a parallelogram

$\angle ABC = 90^\circ$

$\therefore$ ||gm ABCD is a rectangle.

$AC = BD$ (diagonals of a rectangle are equal to each other)

$\frac{1}{2} AC = \frac{1}{2} BD$

$OA = OC = OB$ [$\because$ O is midpt of AC and BD]