Exercise 10A

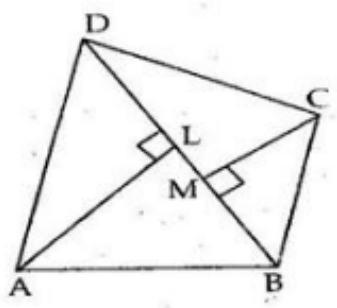
Question 7:

Given: ABCD is a quadrilateral and BD is one of its diagonals.

$AL \perp BD$ and $CM \perp BD$

To Prove: area (quad. ABCD) $= \frac{1}{2} \times BD \times (AL + CM)$

Proof:



Area of Δ BAD $= \frac{1}{2} \times BD \times AL$

Area of Δ CBD $= \frac{1}{2} \times BD \times CM$

$\therefore$ Area of quard. ABCD = Area of ΔABD + Area of ΔCBD

$= \frac{1}{2} \times BD \times AL + \frac{1}{2} \times BD \times CM$

$\therefore$ Area of quard. ABCD $= \frac{1}{2} \times BD[AL + CM]$

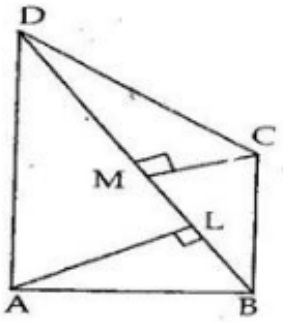
Question 8:

Area of $\Delta BAD = \frac{1}{2} \times BD \times AL$

$$= \left(\frac{1}{2} \times 14 \times 8\right) cm^2 = 56\ cm^2$$

Area of $\Delta CBD = \frac{1}{2} \times BD \times CM$

$$= \left(\frac{1}{2} \times 14 \times 6\right) cm^2 = 42\ cm^2$$



$\therefore$ area of quad. ABCD = Area of ΔABD + Area of ΔCBD

$= (56 + 42)\ cm^2 = 98\ cm^2$

********** END **********