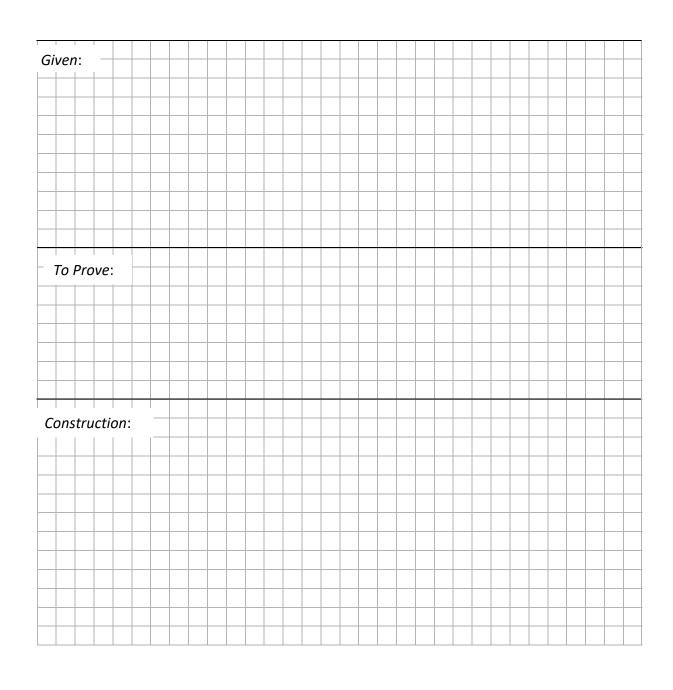
Question 6 (25 marks)

(a) Let $\triangle ABC$ be a triangle. Prove that if a line l is parallel to BC and cuts [AB] in the ratio s:t, where $s,t\in\mathbb{N}$, then it also cuts [AC] in the same ratio.

Diagram:





(b) In the triangle *ABC* shown below:

 $|\angle CAB| = 90^{\circ}$, |AX| = 4 cm, |AY| = 3 cm, $XY \parallel BC$, $XZ \parallel AC$,

and |AX| : |XB| = 1 : 2.

Find |BZ|.

