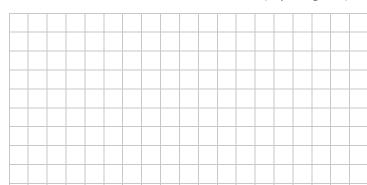
Question 5 (25 marks)

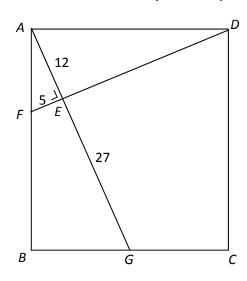
ABCD is a rectangle.

 $F \in [AB], G \in [BC], [FD] \cap [AG] = \{E\}, \text{ and } FD \perp AG.$ 

|AE| = 12 cm, |EG| = 27 cm, and |FE| = 5 cm.

(a) Prove that  $\triangle AFE$  and  $\triangle DAE$  are similar (equiangular).





**(b)** Find |AD|.



(c)  $\triangle AFE$  and  $\triangle AGB$  are similar. Show that |AB|=36 cm.



(d) Find the area of the quadrilateral GCDE.

