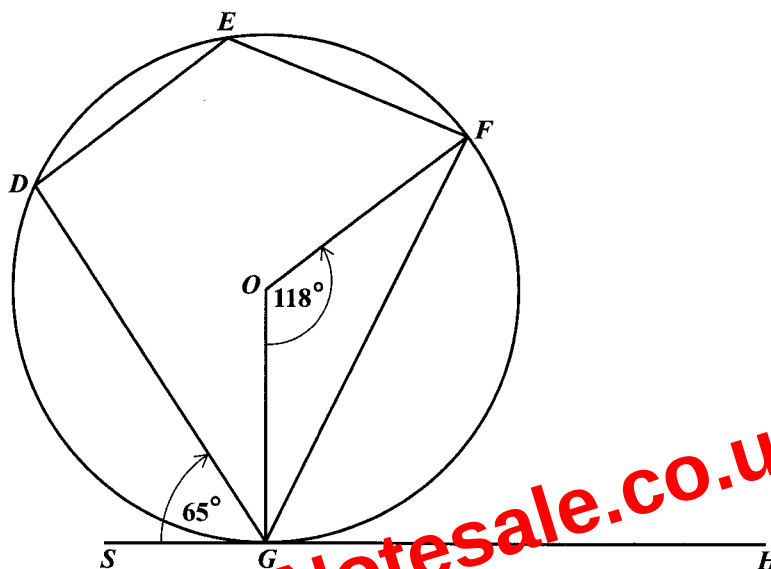


MEASUREMENT AND GEOMETRY AND TRIGONOMETRY

10. (a) The diagram, below, **not drawn to scale**, shows a circle, centre, O . SGH is a tangent to the circle, $\angle FOG = 118^\circ$ and $\angle DGS = 65^\circ$.



Calculate, giving reasons for EACH step of your answer, the measure of:

- (i) $\angle OGF$ (2 marks)
- (ii) $\angle DEF$ (3 marks)

- (b) J , K and L are three sea ports. A ship began its journey at J , sailed to K , then to L and returned to J .

The bearing of K from J is 054° and L is due east of K .

$JK = 122$ km and $KL = 60$ km.

- (i) Draw a clearly labelled diagram to represent the above information. Show on the diagram
- the north/south direction
 - the bearing 054°
 - the distances 122 km and 60 km. (3 marks)
- (ii) Calculate
- the measure of angle JKL
 - the distance JL
 - the bearing of J from L . (7 marks)

Total 15 marks

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