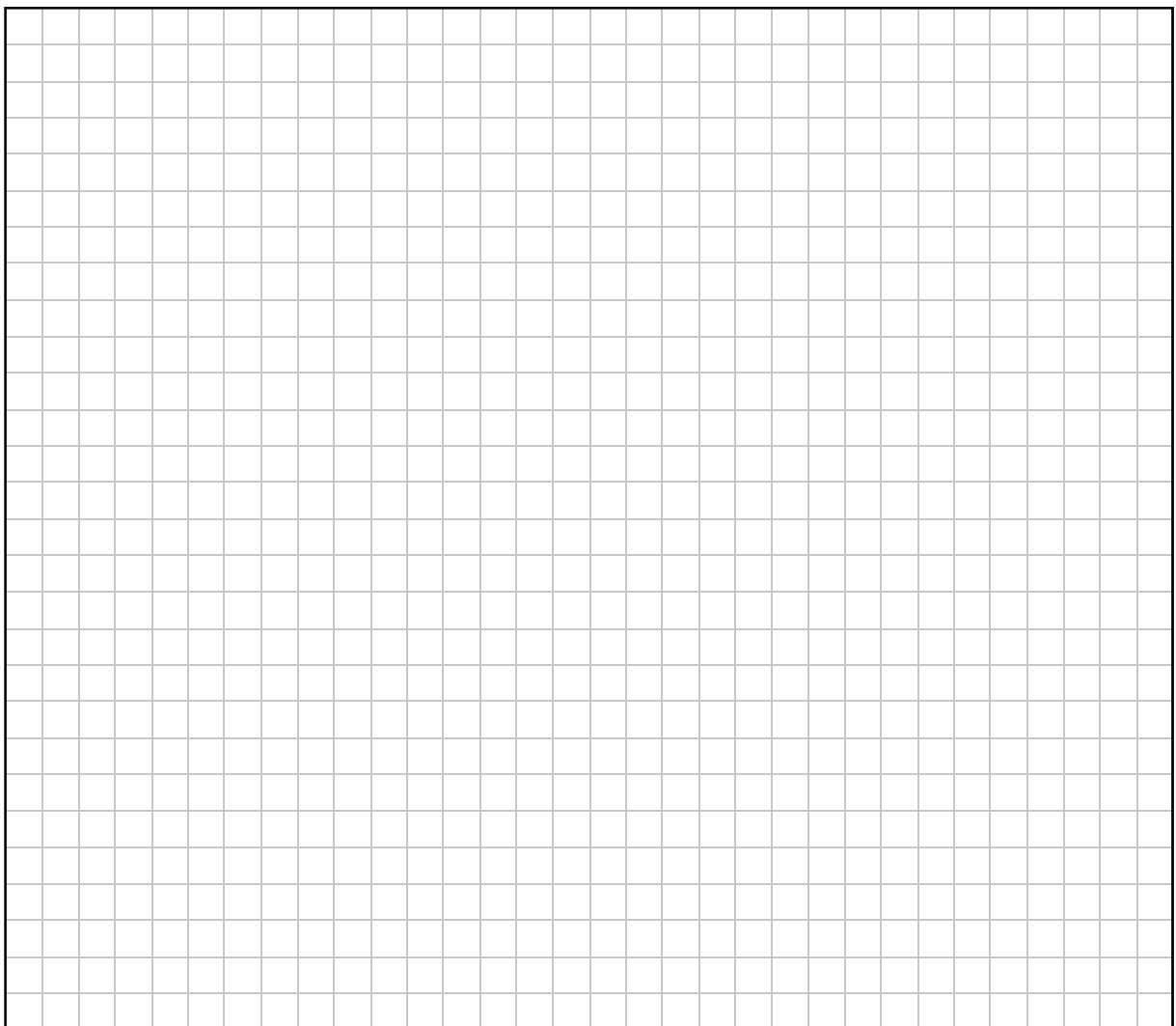
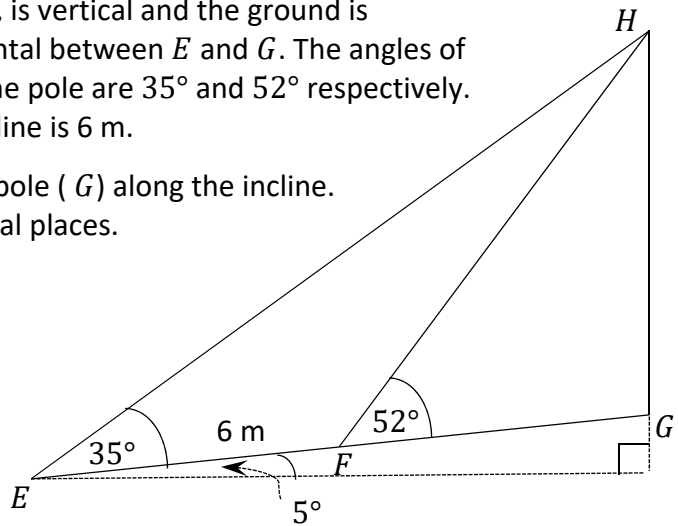


Question 3

(25 marks)

- (a) A flagpole $[GH]$, shown in the diagram, is vertical and the ground is inclined at an angle of 5° to the horizontal between E and G . The angles of elevation from E and F to the top of the pole are 35° and 52° respectively. The distance from E to F along the incline is 6 m.

Find how far F is from the base of the pole (G) along the incline.
Give your answer correct to two decimal places.



- (b) In the diagram the large circle s has centre O and the small circle c has centre D . The circle c touches the circle s at the point C . OA and OB are tangents to c as shown. The radius of c is r . $|\angle BOA| = 60^\circ$. The ratio of the area of s to the area of c is $k : 1$. Find the value of k .

