5.4 Homework

GCSE Mathematics

Non-Right Angled Trigonometry

Question 1

$\triangle KFC$ has $FC = 10$ m, $KC = 8$ m, and $\angle C = 37°$.

(i) Sketch, roughly, $\triangle KFC$ marking on the two known lengths & included angle.

(ii) Write down the cosine rule for c^2.

(iii) Find the length of side KF, giving your answer accurate to 2 decimal places.

(iv) Find the area of $\triangle KFC$, giving your answer accurate to 2 decimal places.

Question 2

$\triangle FBI$ has $FI = 14$ m, $FB = 5$ m, and $\angle F = 24.5°$.

(i) Sketch, roughly, $\triangle FBI$ marking on the two known lengths & included angle.

(ii) Write down the cosine rule for f^2.

(iii) Find the length of side BI, clearly stating the units of your answer.

(iv) Find the area of $\triangle FBI$, clearly stating the units of your answer.

Question 3

In $\triangle CIA$, $\angle I = 137°$, $CI = 84$ m, $IA = 123$ m.

Find length CA and the area of the triangle, both accurate to 3 significant figures.