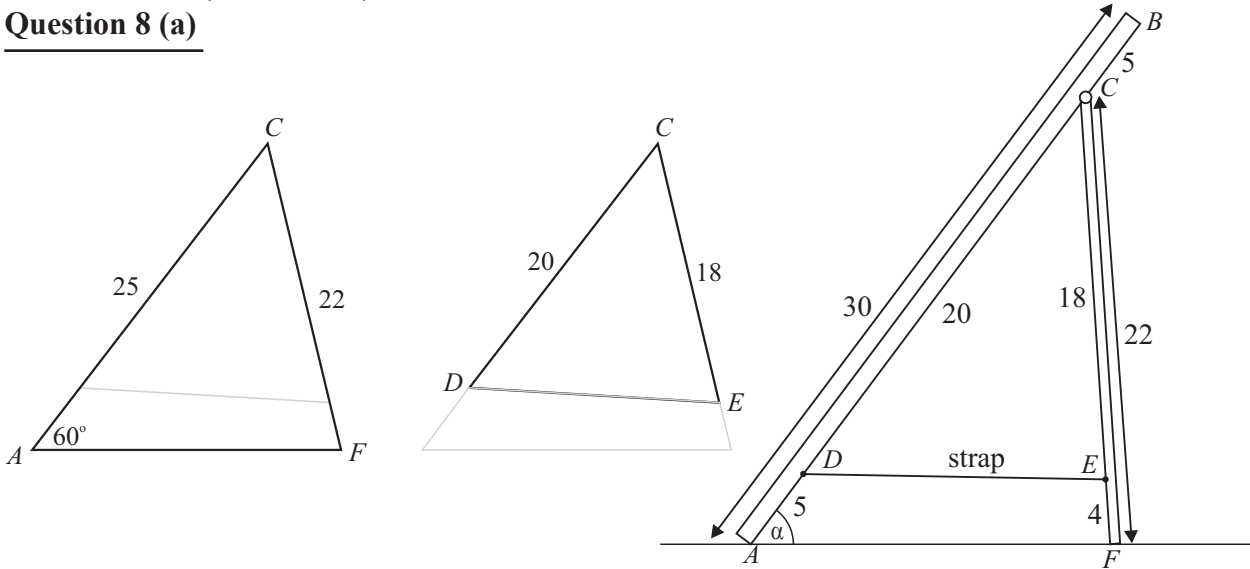


SAMPLE PAPER 2014 (SET F): PAPER 2

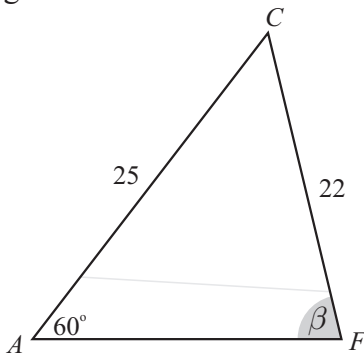
QUESTION 8 (45 MARKS)

Question 8 (a)



Question 8 (b)

Call β the measure of $|\angle CFA|$. Use the Sine Rule to find this angle as you are given 2 sides and a non-included angle.



$$\frac{\sin \beta}{25} = \frac{\sin 60^\circ}{22} \leftarrow \text{Multiply both sides by 22.}$$

$$\therefore \sin \beta = \frac{25 \sin 60^\circ}{22} \leftarrow \text{Find the angle } \beta \text{ by finding the inverse sine of the right-hand side.}$$

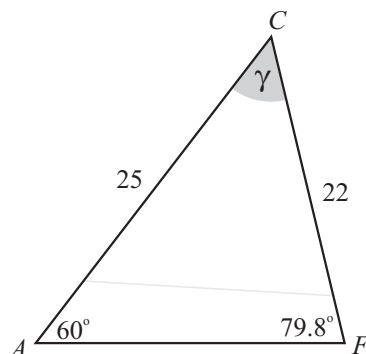
$$\begin{aligned} \beta &= \sin^{-1}\left(\frac{25 \sin 60^\circ}{22}\right) \\ &= 79.8^\circ \end{aligned}$$

Question 8 (c)

Call γ the measure of $|\angle ACF|$.

$$\gamma + 60^\circ + 79.78^\circ = 180^\circ$$

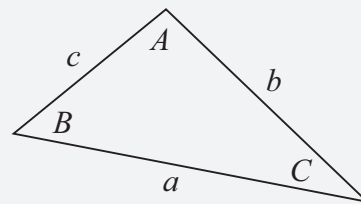
$$\gamma = 180^\circ - 60^\circ - 79.8^\circ = 40.2^\circ$$



FORMULAE AND TABLES BOOK

Trigonometry of the triangle:

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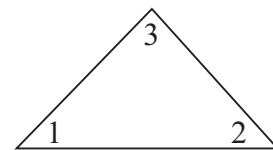


$$\text{Area: } \frac{1}{2} ab \sin C$$

$$\text{Sine Rule: } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{Cosine rule: } a^2 = b^2 + c^2 - 2bc \cos A$$

3 ANGLES IN A TRIANGLE



$$\angle 1 + \angle 2 + \angle 3 = 180^\circ$$

Question 8 (d)

Use the Cosine Rule to find $|DE|$. Use the Cosine Rule anytime you are given 2 sides and an included angle.

$$|DE|^2 = 20^2 + 18^2 - 2(20)(18)\cos 40.2^\circ$$

$$|DE| = \sqrt{20^2 + 18^2 - 2(20)(18)\cos 40.2^\circ} = 13.2 \text{ cm}$$

