

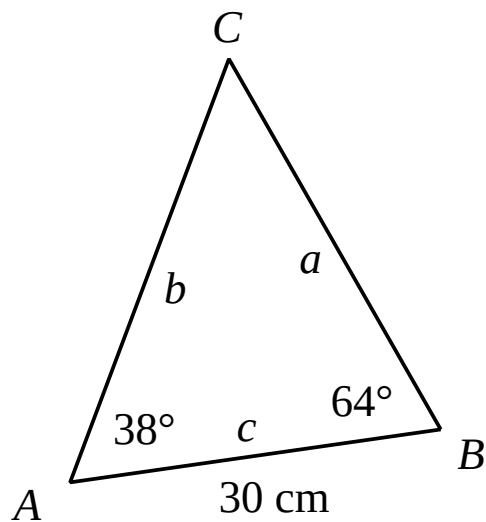
7.5.2 Solutions to 7.4 Homework

GCSE Mathematics Non-Right Angled Trigonometry

Answer 1

(i) $\angle C = 78^\circ$

(ii)



(iii)

$$\frac{\textcircled{a}}{\sin A} = \frac{b}{\sin B} = \boxed{\frac{c}{\sin C}}$$

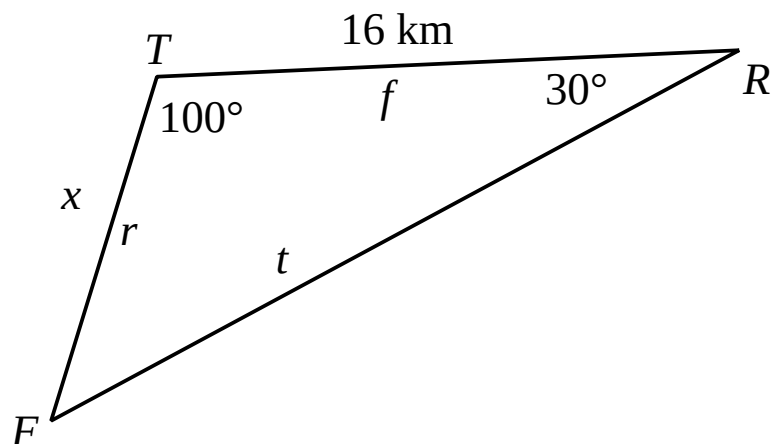
$$\frac{a}{\sin 38} = \frac{30}{\sin 78}$$

$$a = \frac{30 \times \sin 38}{\sin 78}$$

$$= 18.9 \text{ cm (3 significant figures asked for)}$$

Answer 2

(i) $\angle F = 50^\circ$

(ii)**(iii)**

$$\boxed{\frac{f}{\sin F}} = \frac{\textcircled{r}}{\sin R} = \frac{t}{\sin T}$$

$$\frac{r}{\sin 30} = \frac{16}{\sin 50}$$

$$r = \frac{16 \times \sin 30}{\sin 50}$$

$$= 10.4 \text{ km (3 significant figures asked for)}$$

Answer 3

$$\begin{aligned} \text{Area } \Delta &= \frac{1}{2} ab \sin C \\ &= \frac{1}{2} \times 12 \times 7 \times \sin 125 \\ &= 34.4 \text{ cm}^2 \end{aligned}$$

Answer 4

$$\frac{\textcircled{r}}{\sin R} = \frac{s}{\sin S} = \boxed{\frac{t}{\sin T}}$$

$$r = \frac{12 \sin 34}{\sin 76}$$

$$= 6.92 \text{ cm}$$

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Teachers may obtain detailed worked solutions to the exercises by email from MHHShrewsbury@Gmail.com