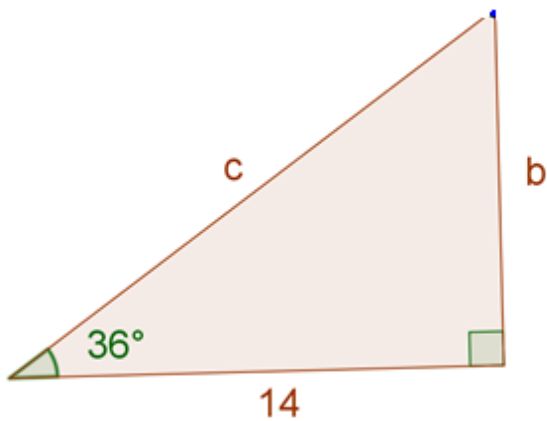


Magic Monk Tutorials

Trigonometry Lesson 3 worksheet

Q1. Find the unknown sides (assume units are in cm):

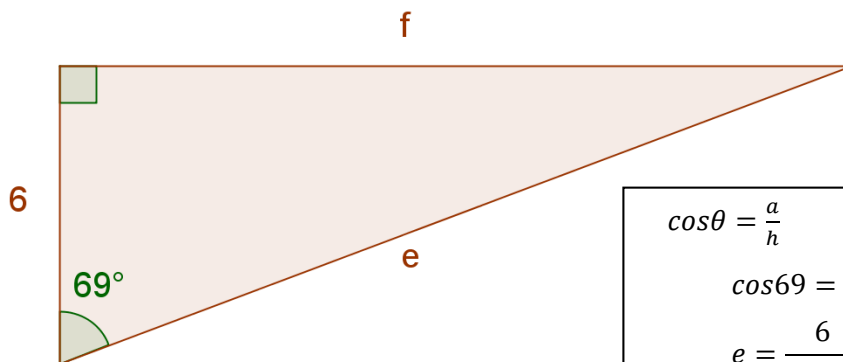
a)



$$\begin{aligned}\cos\theta &= \frac{a}{h} \\ \cos 36 &= \frac{14}{c} \\ c &= \frac{14}{\cos 36} = 17.3\text{cm (1d.p.)}\end{aligned}$$

$$\begin{aligned}\tan\theta &= \frac{o}{a} \\ \tan 36 &= \frac{b}{14} \\ b &= \tan 36 \times 14 \\ &= 10.2\text{cm (1d.p.)}\end{aligned}$$

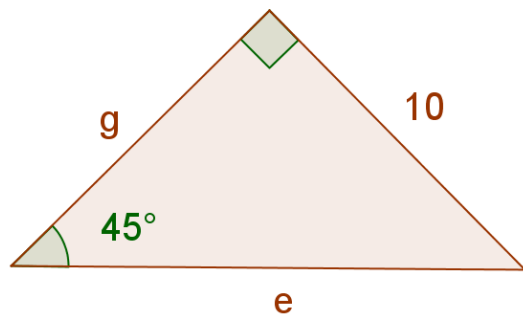
b)



$$\begin{aligned}\cos\theta &= \frac{a}{h} \\ \cos 69 &= \frac{6}{e} \\ e &= \frac{6}{\cos 69} = 16.7\text{cm (1d.p.)}\end{aligned}$$

$$\begin{aligned}\tan\theta &= \frac{o}{a} \\ \tan 69 &= \frac{f}{6} \\ f &= \tan 69 \times 6 \\ &= 15.6\text{cm (1d.p.)}\end{aligned}$$

c)



$$\sin\theta = \frac{o}{h}$$

$$\sin 45 = \frac{10}{e}$$

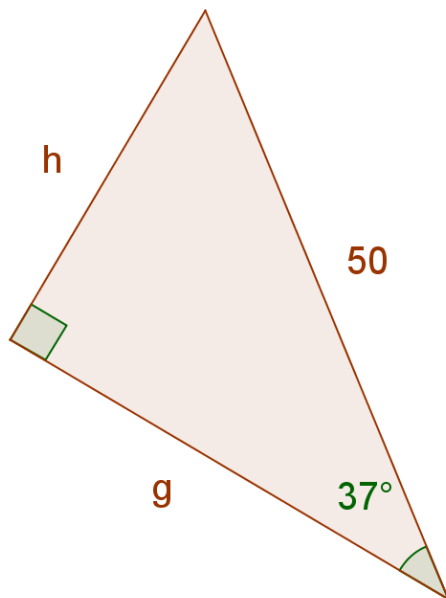
$$e = \frac{10}{\sin 45} = 14.1 \text{ cm (1d.p.)}$$

$$\tan\theta = \frac{o}{a}$$

$$\tan 45 = \frac{10}{g}$$

$$g = \frac{10}{\tan 45} = 10 \text{ cm (1d.p.)}$$

d)



$$\sin\theta = \frac{o}{h}$$

$$\sin 37 = \frac{h}{50}$$

$$h = \sin 37 \times 50 = 30.1 \text{ cm}$$

$$\cos\theta = \frac{a}{h}$$

$$\cos 37 = \frac{g}{50}$$

$$g = \cos 37 \times 50 = 39.9 \text{ cm}$$