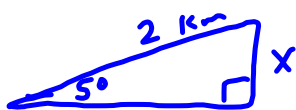


The grade of a road averages 5° to the horizontal.

If you move 2 km along the road, what is the change in altitude?

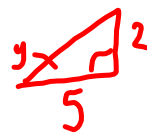
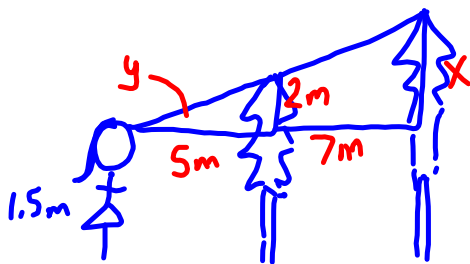


$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 5^\circ = \frac{x}{2}$$

$$x = 2 \sin 5^\circ \\ = 0.17 \text{ km}$$

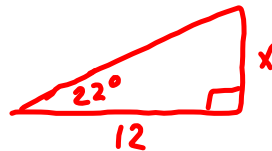
Marcy, who is 1.5m tall, looks up towards a tree directly in her line of vision. Beyond the tree she sees the top of another tree. If the first tree is 2m taller than Marcy and 5m away from her and the second tree is 7m beyond the first, how tall is the second tree?



$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan y = \frac{2}{5}$$

$$y = \tan^{-1}(2/5) \\ = 22^\circ$$



$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan 22^\circ = \frac{x}{12}$$

$$x = 12 \tan 22^\circ \\ = 4.8\text{m}$$

$$\text{Height} = 4.8 + 1.5 \\ = 6.3\text{m}$$

Practice Test

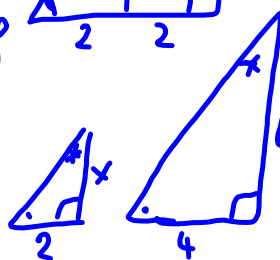
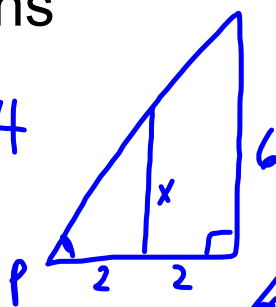


Sample test solutions



Test tomorrow

#14



a)

$$\begin{aligned}\frac{x}{6} &= \frac{2}{4} \\ x &= \frac{2(6)}{4} \\ &= 3\end{aligned}$$

Attachments

Chapter 8 Sample Test.doc

Chapter 8 Sample Test Answers.doc