Section 8.4 The Tangent Ratio, Build Your Skills, p511–513 Student Resource p359–360

## **Build Your Skills**

1.



The boat is 150 m from the cliff.





a) The CSI needs to know at what height from the ground the bullet was shot from.

b)  $\tan 83^\circ = \frac{x}{2.4}$   $x = 2.4 \tan 83^\circ$   $x \approx 19.5 \text{ m}$ He was about 19.5 m away from the wall. c) 19.5 - 4 = 15.5 mThe target would have been 15.5 m from the suspect. Determine the height above the ground that the bullet would have been at this distance.



 $\tan 7^{\circ} = \frac{h}{15.5}$   $h = 15.5 \tan 7^{\circ}$   $x \approx 1.9 \text{ m}$ Since the target was only 1.7 m tall, the bullet would have gone over his head.

7.  $\tan 30^\circ = \frac{h}{12}$   $h = 12 \tan 30^\circ$   $h \approx 7 \text{ m}$ The tree is approximately 7 m tall.



## **Extend Your Thinking**



You can find out more about the *Association francophone de la vallée d'Annapolis* (AFVA) at their website: http://www.afva.ca/.