

## 1.4 Solving Right Triangles

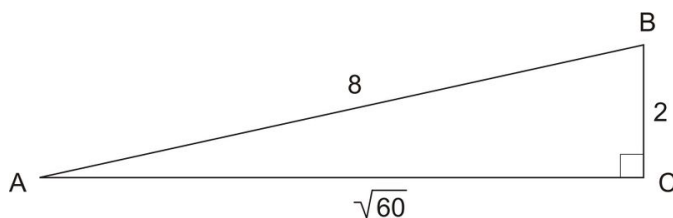
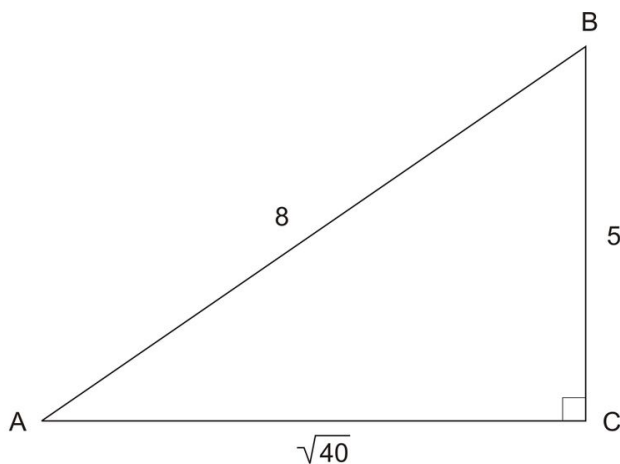
1.

$$\angle A = 50^\circ$$

$$b \approx 5.83$$

$$a \approx 9.33$$

2. Anna is correct. There is not enough information to solve the triangle. That is, there are infinitely many right triangles with hypotenuse 8. For example:



3.  $6^2 + 5.03^2 = 36 + 25.3009 = 61.3009 = 7.83^2$ .

4.  $\angle B \approx 37^\circ$

5.  $A = \frac{1}{2} \cdot 10 \cdot 12 \cdot \sin 104^\circ = 58.218$

6.  $A = 4 \cdot 9 \cdot \sin 112^\circ = 33.379$

7. About 19.9 feet tall

8. About 120.3 feet

9. The plane has traveled about 203 miles. The two cities are 35 miles apart.

10. About 41.95 feet

11. About 7.44

12.

$$\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}}$$

$$\tan \theta = 0.625$$

$$\theta = 32^\circ$$