Lesson 8 Answers

1. 44.7°
2. 27.6°
3. 18.4°
4. 28.3°
5. $\frac{35}{12}$
6. 22.4°
7. 68.4°
8. 62.4°
9. 53.9°
10. 42.8°

PROBLEM

11.

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

$$\tan x = \frac{78.3}{26.1}$$

$$x = \tan^{-1}\left(\frac{78.3}{26.1}\right)$$

$$x = 71.6\,°$$

The measure of *x* is 71.6 °.

12.

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

$$\tan A = \frac{41}{72}$$

$$A = \tan^{-1}\left(\frac{41}{72}\right)$$

$$A = 29.7°$$

Find the hypotenuse of the top triangle using the Pythagorean theorem.

$$x^2 + y^2 = c^2$$

$$72^2 + 41^2 = c^2$$

$$6865 = c^2$$

$$\sqrt{6865} = c^2$$

$$82.9 \text{ cm} = c$$

Use the hypotenuse to find B.

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

$$\tan B = \frac{34}{82.9}$$

$$B = \tan^{-1}\left(\frac{34}{82.9}\right)$$

$$B = 22.3°$$