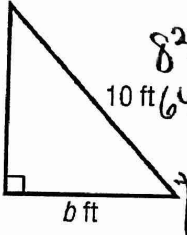
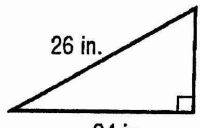
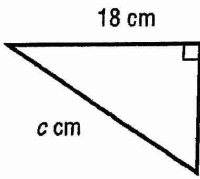


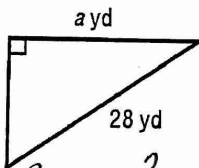
# Lesson 5 Homework Practice: The Pythagorean Theorem

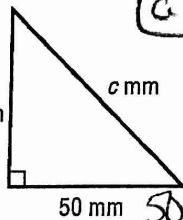
Write an equation you could use to find the length of the missing side of each right triangle. Then find the missing length. Round to the nearest tenth if necessary.

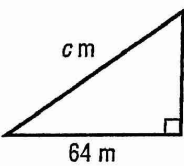
1.   $8^2 + b^2 = 10^2$   
 $64 + b^2 = 100$   
 $b^2 = 36$   
 $b = 6 \text{ ft}$

2.   $a^2 + 24^2 = 26^2$   
 $a^2 + 576 = 676$   
 $a^2 = 100$   
 $a = 10 \text{ in.}$

3.   $18^2 + 15^2 = c^2$   
 $324 + 225 = c^2$   
 $549 = c^2$   
 $c \approx 23.4 \text{ cm}$

4.   $a^2 + 14^2 = 28^2$   
 $a^2 + 196 = 784$   
 $a^2 = 588$   
 $a \approx 24.2 \text{ yd}$

5.   $50^2 + 50^2 = c^2$   
 $2500 + 2500 = c^2$   
 $5000 = c^2$   
 $c \approx 70.7 \text{ mm}$

6.   $45^2 + 64^2 = c^2$   
 $2025 + 4096 = c^2$   
 $6121 = c^2$   
 $c \approx 78.2 \text{ m}$

7.  $a = 65 \text{ cm}; c = 95 \text{ cm}$   
 $65^2 + b^2 = 95^2$   
 $4225 + b^2 = 9025$   
 $b^2 = 4800$   
 $b \approx 69.3 \text{ cm}$

8.  $a = 16 \text{ yd}; b = 22 \text{ yd}$   
 $16^2 + 22^2 = c^2$   
 $256 + 484 = c^2$   
 $740 = c^2$   
 $c \approx 27.2 \text{ yd}$

9.  $a = 10 \text{ yd}; c = 18 \text{ yd}$   
 $10^2 + b^2 = 18^2$   
 $100 + b^2 = 324$   
 $b^2 = 224$   
 $b \approx 15.0 \text{ yd}$

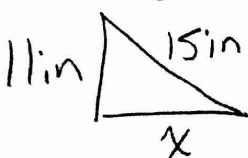
10.  $b = 18 \text{ ft}; c = 20 \text{ ft}$   
 $a^2 + 18^2 = 20^2$   
 $a^2 + 324 = 400$   
 $a^2 = 76$   
 $a \approx 8.7 \text{ ft}$

Determine whether each triangle with sides of given lengths is a right triangle. Justify your answer.

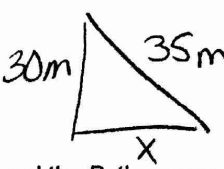
11. 18 ft, 23 ft, 29 ft  
 $18^2 + 23^2 = 29^2$   
 $853 = 841$   
**No**

12. 7 yd, 24 yd, 25 yd  
 $7^2 + 24^2 = 25^2$   
 $625 = 625$   
**Yes**

13. The hypotenuse of a right triangle is 15 inches, and one of its legs is 11 inches. Find the length of the other leg.

  $11^2 + x^2 = 15^2$   
 $121 + x^2 = 225$   
 $x^2 = 104$   
 $x \approx 10.2 \text{ in.}$

14. A leg of a right triangle is 30 meters long, and the hypotenuse is 35 meters long. What is the length of the other leg?

  $x^2 + 30^2 = 35^2$   
 $x^2 + 900 = 1225$   
 $x^2 = 325$   
 $x \approx 18.0 \text{ m}$