

Pythagorean Theorem practice problems

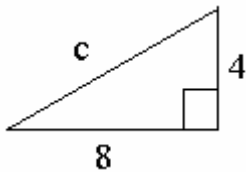
Find the length of the hypotenuse.

1. $4^2 + 5^2 = c^2$

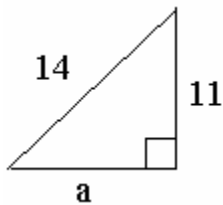
2. $7^2 + 2^2 = c^2$

Find the length of the third side of each right triangle.

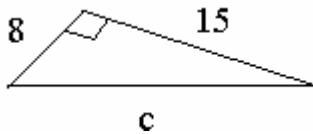
3.



4.



5.



Find the length of the side not given when the hypotenuse is c and the legs are a and b .

6. $a = 10, b = 24$

7. $a = 9, c = 13$

8. $b = 18, c = 30$

9. $a = 5, b = 12$

10. $a = 6, c = 10$

Practice Problem solutions

1. $4^2 + 5^2 = c^2$

$$16 + 25 = c^2$$

$$41 = c^2$$

$$c = \sqrt{41}$$

2. $7^2 + 2^2 = c^2$

$$49 + 4 = c^2$$

$$53 = c^2$$

$$c = \sqrt{53}$$

3. $4^2 + 8^2 = c^2$

$$16 + 64 = c^2$$

$$80 = c^2$$

$$c = 4\sqrt{5}$$

4. $14^2 - 11^2 = a^2$

$$196 - 121 = a^2$$

$$75 = a^2$$

$$a = 5\sqrt{3}$$

5. $15^2 + 8^2 = c^2$

$$225 + 64 = c^2$$

$$289 = c^2$$

$$c = \sqrt{289}$$

6. $10^2 + 24^2 = b^2$

$$100 + 576 = b^2$$

$$676 = b^2$$

$$b = 26$$

7. $13^2 - 9^2 = b^2$

$$169 - 81 = b^2$$

$$88 = b^2$$

$$b = 2\sqrt{22}$$

8. $30^2 - 18^2 = a^2$

$$900 - 324 = a^2$$

$$576 = a^2$$

$$a = 24$$

9. $5^2 + 12^2 = c^2$

$$25 + 144 = c^2$$

$$169 = c^2$$

$$c = 13$$

10. $10^2 - 6^2 = b^2$

$$100 - 36 = b^2$$

$$64 = b^2$$

$$b = 8$$