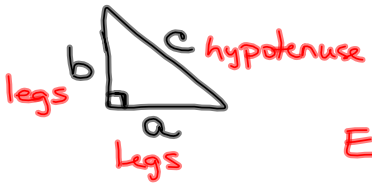
3-4 Pythagorean Theorem (Pt. 2)



$a^2 + b^2 = c^2$

Example:

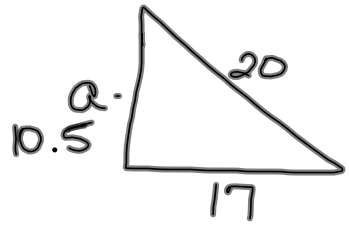
$3^2 + 4^2 = c^2$

$9 + 16 = c^2$

$25 = c^2$

$\sqrt{25} = \sqrt{c^2}$

$5 = c$



$a^2 + 17^2 = 20^2$

$a^2 + 289 = 400$

$-289 \quad -289$

$\sqrt{a^2} = \sqrt{111}$

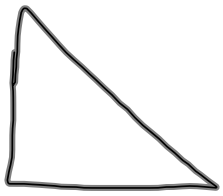
$a = 10.5$

D	U
+289	-289

$$a^2 + b^2 = c^2$$

b, 9 ft. ; c, 12 ft.

$b = 9$ ft $\quad c = 12$ ft.



$9^2 + a^2 = 12^2$

$81 + a^2 = 144$

$-81 \quad -81$

$a^2 = 63$

$\sqrt{a^2} = \sqrt{63}$

$a = 7.9$

$a^2 + 9^2 = 12^2$

$a^2 + 81 = 144$

$-81 \quad -81$

$\sqrt{a^2} = \sqrt{63}$

$a = 7.9$

a, 3m; c, 8m

$3^2 + b^2 = 8^2$

$9 + b^2 = 64$

$-9 \quad -9$

$\sqrt{b^2} = \sqrt{55}$

$b \approx 7.4$

D	u
b^2	-9
$+9$	$-\sqrt{b}$

d	u
$+9$	-9

$15^2 + 18^2 = c^2$

$225 + 324 = c^2$

$549 = c^2$

$\sqrt{549} = \sqrt{c^2}$

23.4 inches $\approx c$

15 8 17 Is it a right triangle?

$a^2 + b^2 = c^2$

$8^2 + 15^2 = 17^2$ Yes!

$64 + 225 = 289$

$289 = 289$

9. $18^2 + 24^2 = 30^2$

$324 + 576 = 900$

$900 = 900$

yes

$a^2 + b^2 = c^2$

$4^2 + 5^2 = 7^2$

$16 + 25 = 49$

$41 \neq 49$ so NO.