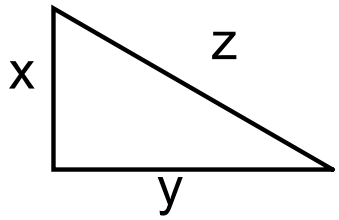
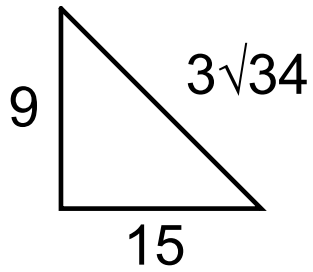
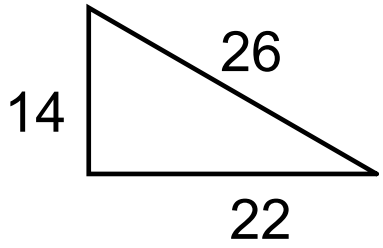
Chapter 7.2: Use the converse of the Pythagorean Theorem

If $x^2+y^2=z^2$, then the triangles is a right triangle.



Tell if the triangle is a right triangle.





To make a triangle take a+b>c

$c^2 < a^2 + b^2$ Acute Triangle

$c^2 > a^2 + b^2$ Obtuse Triangle

14, 22, 26
14+22>26
36>26
$14^2+22^2 \bigcirc 26^2$
196+484 ○ 676
682 ⊗ 676
acute Δ
$a^2+b^2>c^2$
$c^2<a^2+b^2$

4, 7, 8
4+7>8
11>8
$4^2+7^2 \bigcirc 8^2$
16+49 ○ 64
65 ⊗ 64
acute Δ
$a^2+b^2>c^2$

6, 7, 20
6+7 ≯ 20
13 ≯ 20
Not Δ

10 11 20
10+11>20
21>20
$10^2+11^2 \bigcirc 20^2$
221 ⊗ 400
obtuse

9, 15, $3\sqrt{34}$
9+15 > $3\sqrt{34}$
24 > $3\sqrt{34}$
24 > 17.49
$(17.5)^2 = 306.25$
$9^2+15^2 \bigcirc (3\sqrt{34})^2$
$3^2\sqrt{34}^2$
81+225 ○ 9(34)
306 ⊜ 306
Right

Can segments with lengths of 4.3 feet, 5.2 feet, **and** 6.1 feet **form a triangle? If so, would the triangle be *acute, right,* or *obtuse*?**

You are part of a crew that is installing the mast on a catamaran. When the mast is fastened properly, it is perpendicular to the trampoline deck. How can you check that the mast is perpendicular using a tape measure?

Homework: Chapter 7.2
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