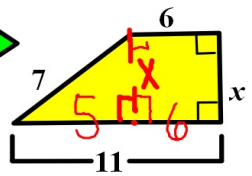
8-2 Pythagorean Theorem continued

Feb 1

std. 15.0

ex 1



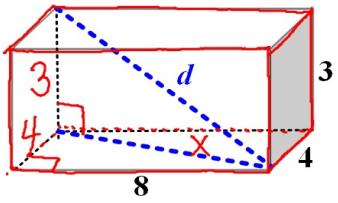
$5^2 + x^2 = 7^2$

$x^2 = 24$

$\sqrt{4} \cdot \sqrt{6}$

$x = 2\sqrt{6}$

ex 2



Find the length of the diagonal *d* of the box.

$4^2 + 8^2 = x^2$

$80 = x^2$

$3^2 + x^2 = d^2$

$3^2 + 80 = d^2$

$89 = d^2$

$\sqrt{89} = d$

8-3 Triangle Tests

c = longest side a, b = shorter sides

Right Δ test: If $c^2 = a^2 + b^2$, then ΔABC is a right Δ and $m\angle C = 90$.

Pythagorean Triples

3, 4, 5	5, 12, 13	8, 15, 17
6, 8, 10	15, 36, 39	

Acute Δ test: If $c^2 < a^2 + b^2$, then ΔABC is an acute Δ.

Obtuse Δ test: If $c^2 > a^2 + b^2$, then ΔABC is an obtuse Δ and $m\angle C > 90$.

ex 3 **Is a triangle with sides 4, 4, and 5 acute, obtuse, or right?**

$5^2 \quad 4^2 + 4^2$

$25 < 32$ acute