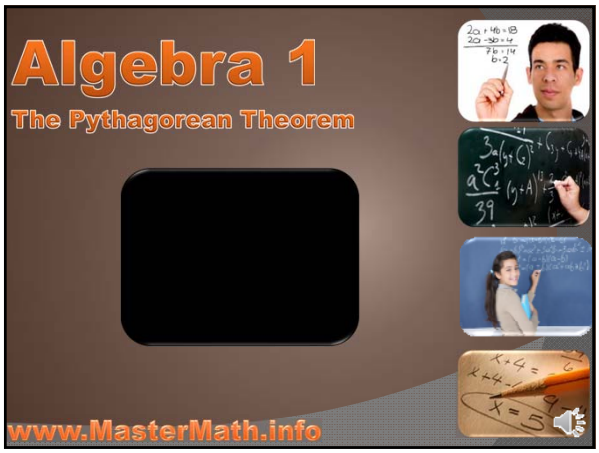
Algebra 1
The Pythagorean Theorem
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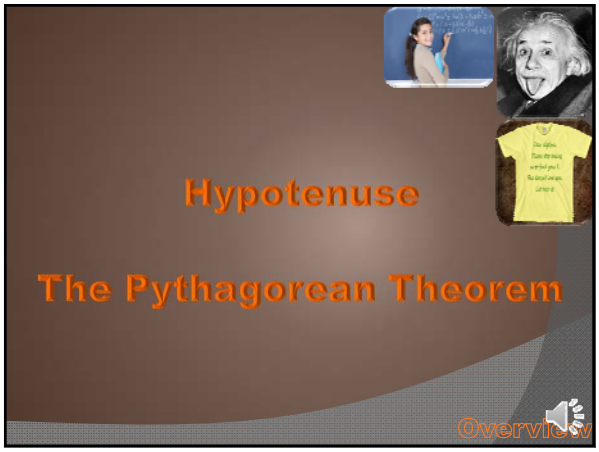
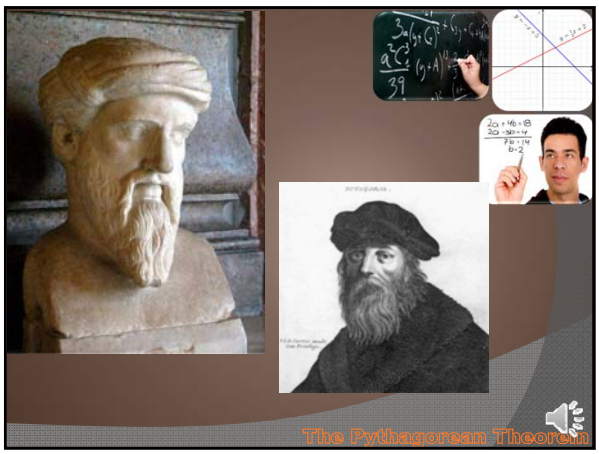
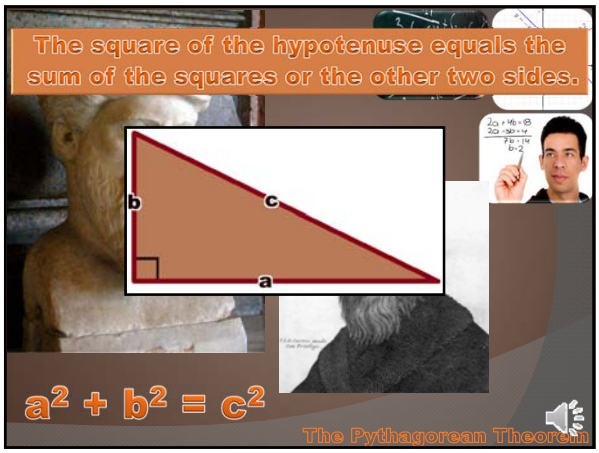
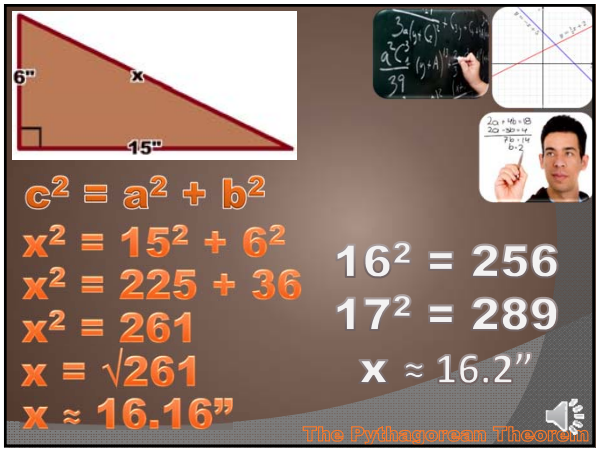
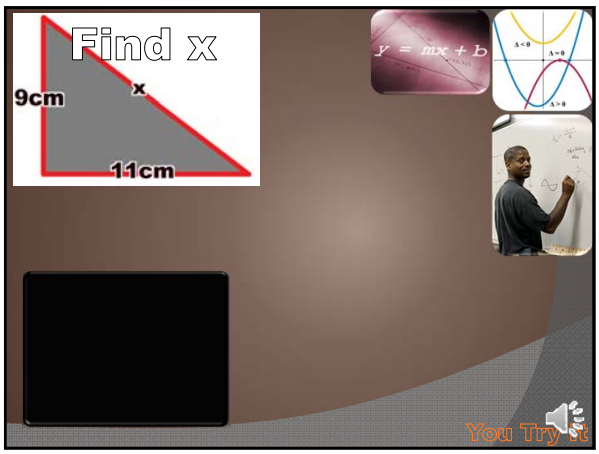
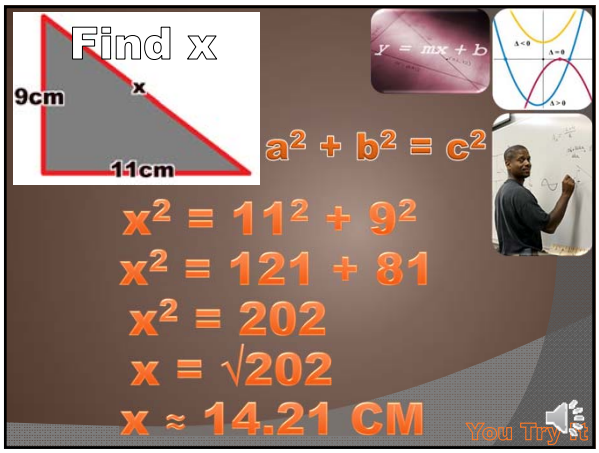

Hypotenuse
The Pythagorean Theorem
Overview


The Pythagorean Theorem

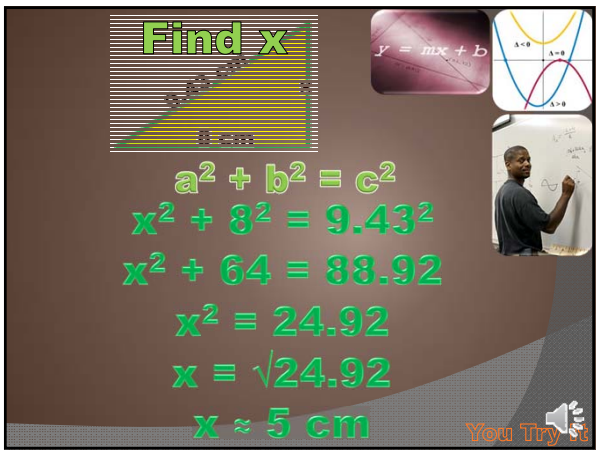

The square of the hypotenuse equals the sum of the squares or the other two sides.
b
c
a
$a^2 + b^2 = c^2$
The Pythagorean Theorem

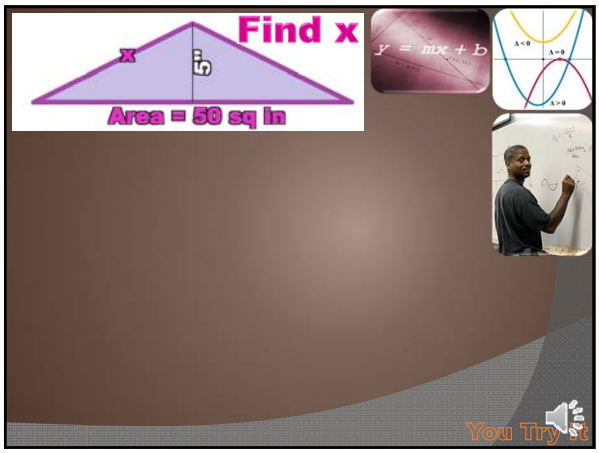

6"
x
15"
$c^2 = a^2 + b^2$
$x^2 = 15^2 + 6^2$
$x^2 = 225 + 36$
$x^2 = 261$
$x = \sqrt{261}$
$x \approx 16.16"$
$16^2 = 256$
$17^2 = 289$
$x \approx 16.2"$
The Pythagorean Theorem

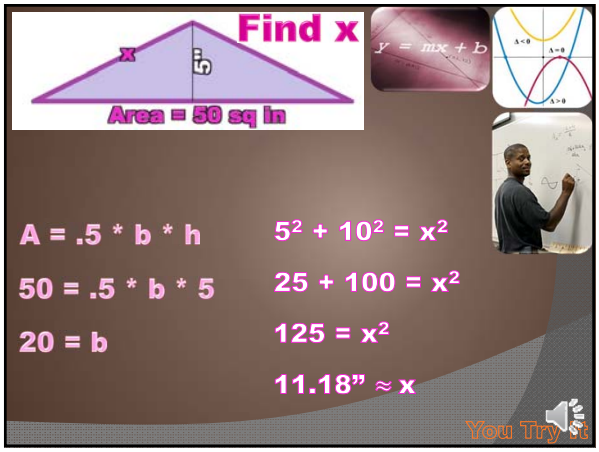

Find x
9cm
x
11cm
You Try It


Find x
9cm
x
11cm
$a^2 + b^2 = c^2$
$x^2 = 11^2 + 9^2$
$x^2 = 121 + 81$
$x^2 = 202$
$x = \sqrt{202}$
$x \approx 14.21$ CM
You Try It

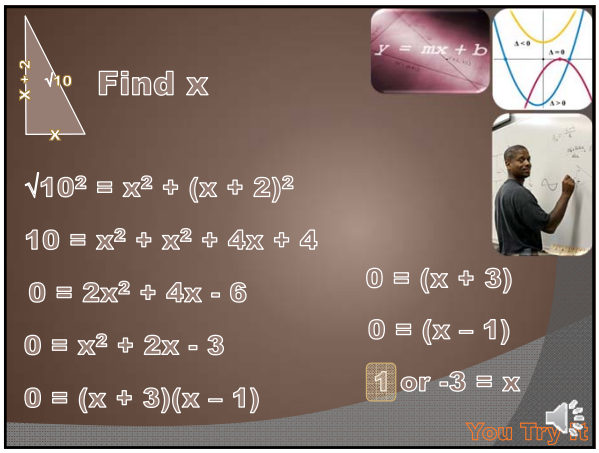

Find x
8cm
You Try It

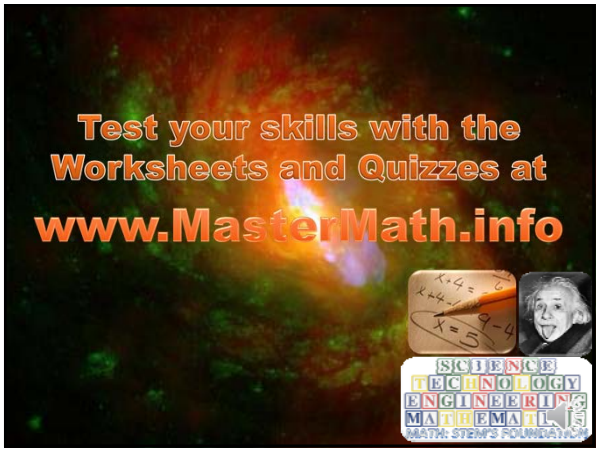

Find x
8cm
$a^2 + b^2 = c^2$
$x^2 + 8^2 = 9.43^2$
$x^2 + 64 = 88.92$
$x^2 = 24.92$
$x = \sqrt{24.92}$
$x \approx 5$ cm
You Try It


Find x
x
5 in
Area = 50 sq in
y = mx + b
You Try It


Find x
x
5 in
Area = 50 sq in
y = mx + b
A = .5 * b * h
50 = .5 * b * 5
20 = b
5² + 10² = x²
25 + 100 = x²
125 = x²
11.18” ≈ x
You Try It


Find x
x + 2
√10
x
y = mx + b
You Try It


Find x
√10
x + 2
x
y = mx + b
√10² = x² + (x + 2)²
10 = x² + x² + 4x + 4
0 = 2x² + 4x - 6
0 = x² + 2x - 3
0 = (x + 3)(x – 1)
0 = (x + 3)
0 = (x – 1)
1 or -3 = x
You Try It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