

The Secret of the Special Right Triangles (Big Idea Geometry 9.2)

Lesson 050 | Geometry | Special right triangles

<https://www.youtube.com/watch?v=GTAVN7R0kug>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A 30° - 60° - 90° triangle has shorter leg 55. Find the longer leg and hypotenuse.

02

A 45° - 45° - 90° triangle has hypotenuse $16\sqrt{2}$. Find both legs and area.

03

A 45° - 45° - 90° triangle has hypotenuse $24\sqrt{2}$. Find both legs and area.

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04

A 30° - 60° - 90° triangle has shorter leg 48. Find the longer leg and hypotenuse.

05

A 45° - 45° - 90° triangle has hypotenuse $10\sqrt{2}$. Find both legs and area.

06

A 45° - 45° - 90° triangle has hypotenuse $22\sqrt{2}$. Find both legs and area.

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01

A 30° - 60° - 90° triangle has shorter leg 55. Find the longer leg and hypotenuse.

The side ratio is $1:\sqrt{3}:2$. Longer leg $55\sqrt{3}$; hypotenuse 110.

02

A 45° - 45° - 90° triangle has hypotenuse $16\sqrt{2}$. Find both legs and area.

Each leg is $\text{hypotenuse}/\sqrt{2}=16$. $\text{Area}=(1/2)(16)^2=128$.

03

A 45° - 45° - 90° triangle has hypotenuse $24\sqrt{2}$. Find both legs and area.

Each leg is $\text{hypotenuse}/\sqrt{2}=24$. $\text{Area}=(1/2)(24)^2=288$.

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04

A 30° - 60° - 90° triangle has shorter leg 48. Find the longer leg and hypotenuse.

The side ratio is $1:\sqrt{3}:2$. Longer leg $48\sqrt{3}$; hypotenuse 96.

05

A 45° - 45° - 90° triangle has hypotenuse $10\sqrt{2}$. Find both legs and area.

Each leg is $\text{hypotenuse}/\sqrt{2}=10$. $\text{Area}=(1/2)(10)^2=50$.

06

A 45° - 45° - 90° triangle has hypotenuse $22\sqrt{2}$. Find both legs and area.

Each leg is $\text{hypotenuse}/\sqrt{2}=22$. $\text{Area}=(1/2)(22)^2=242$.