Pythagoras: Find a Side of a Right Triangle

Third side of a right-angled triangle from the other two by Pythagoras' theorem, with the two acute angles and the area.

Method: Pythagoras' theorem $a^2 + b^2 = c^2$

Input parameters

Unit system: SI

Parameter	Value	Unit
Side to find	Hypotenuse c (from a and b)	
Leg a	3.0000	m
Leg b	4.0000	m
Hypotenuse c	5.0000	m

Calculated results

Parameter	Value	Unit
Leg a	3.0000	m
Leg b	4.0000	m
Hypotenuse	5.0000	m
Angle opposite a	36.870	°
Area	6.0000	m^2

Formula and method

$$c = \sqrt{a^2 + b^2}$$

Variables

find	Side to find	-
a	Leg a	m
b	Leg b	m
c	Hypotenuse c	m
α	Angle opposite a	rad
A	Area	m^2

Method and standards

Pythagoras.

Assumptions and limits

- Right-angled triangle.

References

- Pythagoras' theorem $a^2 + b^2 = c^2$

Report details

Report reference	FCC-YV69-R2MK (the same inputs always give the same reference)
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Release checks	3 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/general/geometry/pythagoras

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.