

**UNIVERSITÄT PADERBORN**  
Die Universität der Informationsgesellschaft

# MATH

## Mountains of Absolutely Terrifying Height

(2017-1-DE03-KA201-035644)

What is laying ahead of us until the project ending?

*THE MATH Development Conference  
Adana, Turkey 16<sup>th</sup> - 18<sup>th</sup> of April 2019*

Chair of Business and Human Resource Education II  
Prof. Dr. Marc Beutner

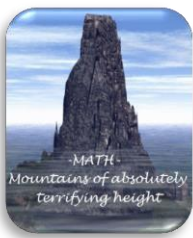
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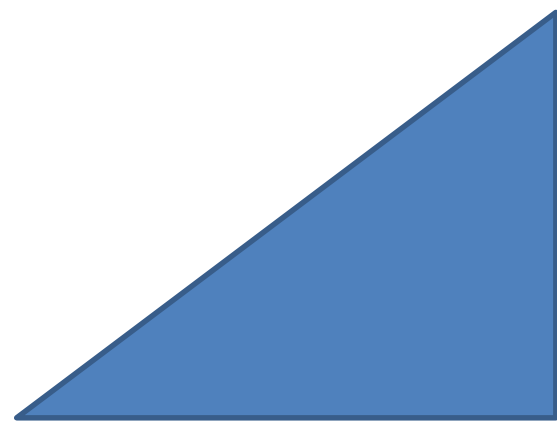


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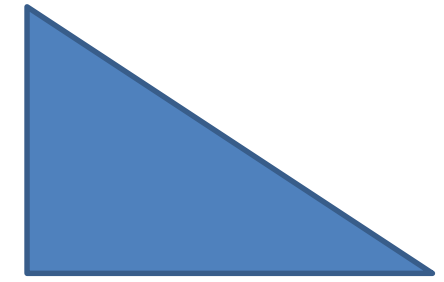




# Fraction Video



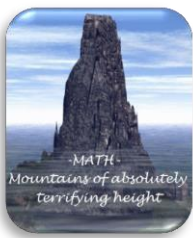
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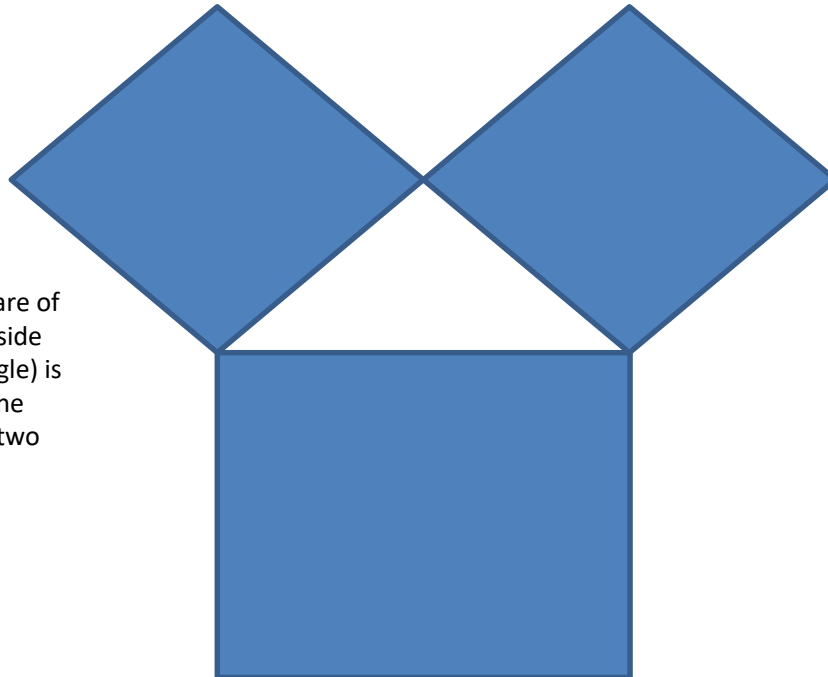
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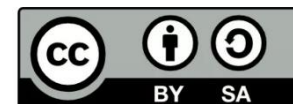
## Pythagorean Theorem – When a triangle has a right angle (90°)

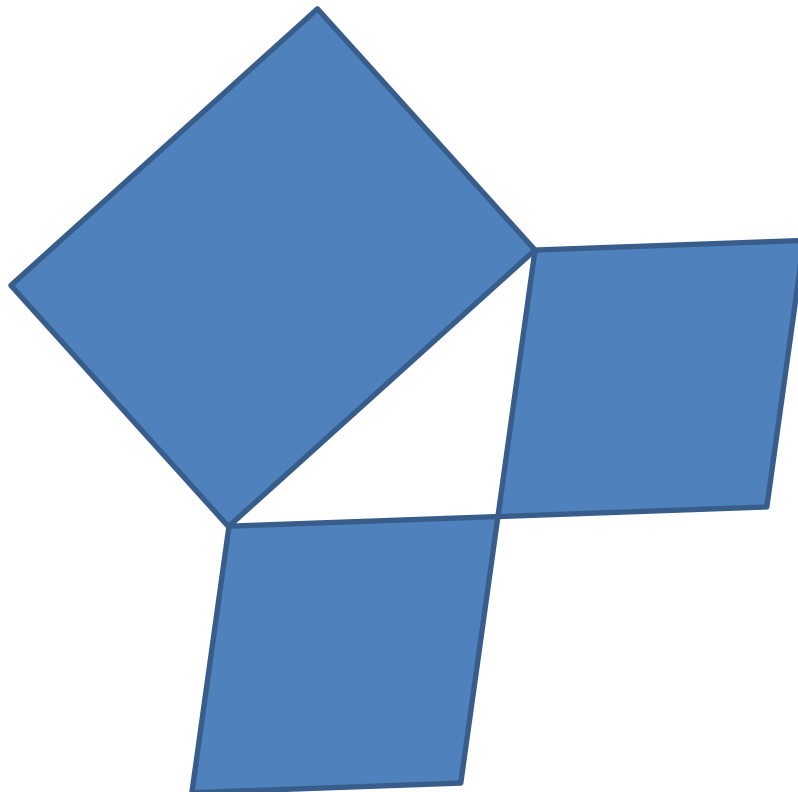
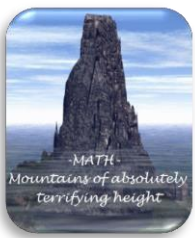
It states that the square of the hypotenuse (the side opposite the right angle) is equal to the sum of the squares of the other two sides.



$$a^2 + b^2 = c^2$$

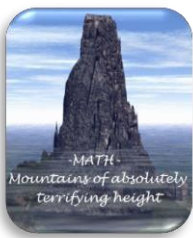
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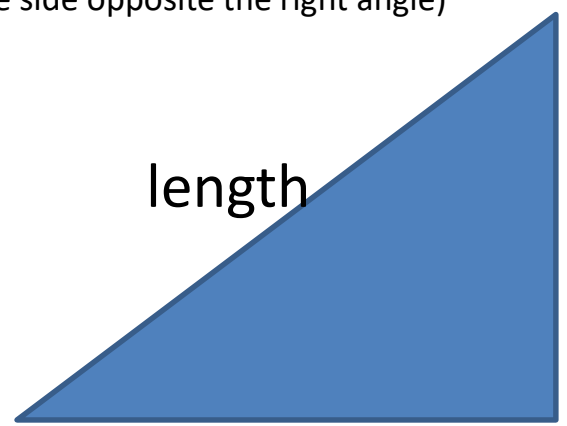
# Calculation of a Square Root – Length of the slope

a *square root* of a number  $a$  is a number  $y$  such that  $y^2 = a$ ;

- |                           |                           |
|---------------------------|---------------------------|
| $\sqrt{2} \times 1 = 1$   | $\sqrt{2} \times 14 = 19$ |
| $\sqrt{2} \times 2 = 2$   | $\sqrt{2} \times 15 = 21$ |
| $\sqrt{2} \times 3 = 4$   | $\sqrt{2} \times 16 = 22$ |
| $\sqrt{2} \times 4 = 5$   | $\sqrt{2} \times 17 = 24$ |
| $\sqrt{2} \times 5 = 7$   | $\sqrt{2} \times 18 = 25$ |
| $\sqrt{2} \times 6 = 8$   | $\sqrt{2} \times 19 = 26$ |
| $\sqrt{2} \times 7 = 9$   | $\sqrt{2} \times 20 = 28$ |
| $\sqrt{2} \times 8 = 11$  | $\sqrt{2} \times 21 = 29$ |
| $\sqrt{2} \times 9 = 12$  | $\sqrt{2} \times 22 = 31$ |
| $\sqrt{2} \times 10 = 14$ | $\sqrt{2} \times 23 = 32$ |
| $\sqrt{2} \times 11 = 15$ | $\sqrt{2} \times 24 = 33$ |
| $\sqrt{2} \times 12 = 16$ | $\sqrt{2} \times 25 = 35$ |
| $\sqrt{2} \times 13 = 18$ |                           |

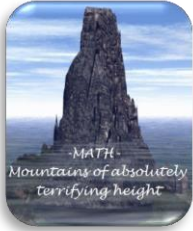
- $\sqrt{1} = 1$  since  $1^2 = 1$
- $\sqrt{4} = 2$  since  $2^2 = 4$
- $\sqrt{9} = 3$  since  $3^2 = 9$
- $\sqrt{16} = 4$  since  $4^2 = 16$
- $\sqrt{25} = 5$  since  $5^2 = 25$
- $\sqrt{36} = 6$  since  $6^2 = 36$
- $\sqrt{49} = 7$  since  $7^2 = 49$
- $\sqrt{64} = 8$  since  $8^2 = 64$
- $\sqrt{81} = 9$  since  $9^2 = 81$
- $\sqrt{100} = 10$  since  $10^2 = 100$

Length of the hypotenuse  
(the side opposite the right angle)



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# Thanks!

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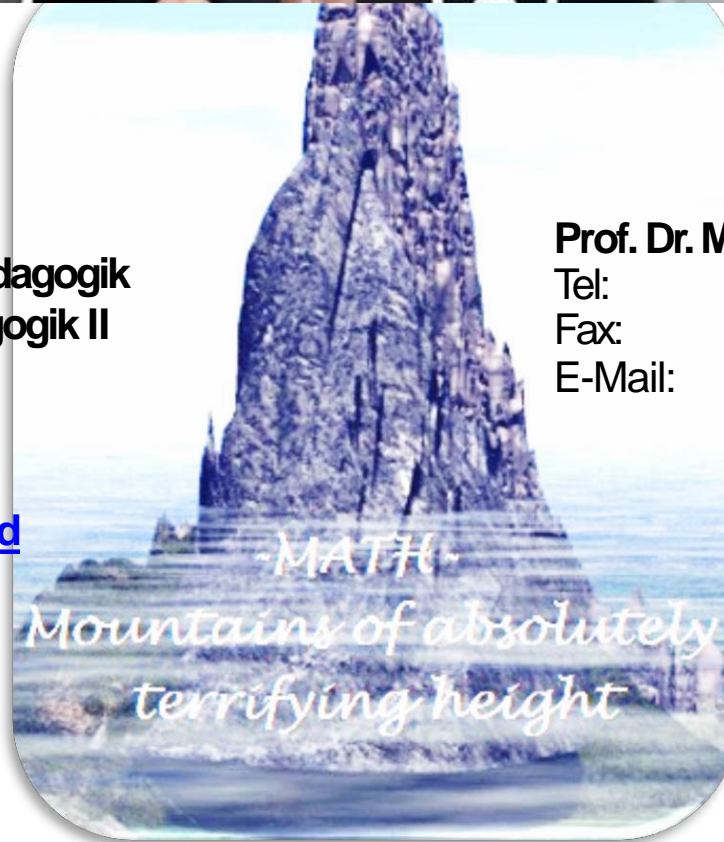
<http://www.upb.de/wipaed>  
<http://math.eduproject.eu>

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