

# Fermat's Last Theorem

Historical Perspective on a  
Mathematical Challenge

# Fermat's Challenge

- Fermat claimed no positive integer solutions exist for the equation below
$$-x^n + y^n = z^n, n > 2$$
- Mathematicians proved special cases for  $n = 3$  and  $n = 4$

# Pythagorean Case & Examples

- The case  $n = 2$  is the Pythagorean theorem

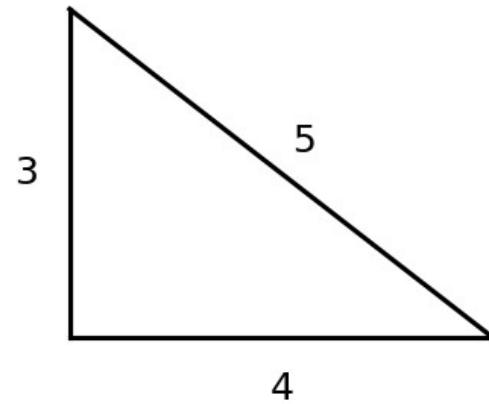
$$- a^2 + b^2 = c^2$$

$$- 3^2 + 4^2 = 5^2$$

$$- \frac{1}{2}$$

$$- \alpha^2$$

[3]



# Andrew Wiles & Significance

- Andrew Wiles announced a proof of the theorem in 1993
- The proof involved complex modern mathematics
- It connected number theory and geometry, inspiring further research