

- If $n = 1$ we have $x^2 + y^2 = z$ this is easy.

- For $n = 2$, we have $x^2 + y^2 = z^2$.



This is Pythagore!

- For $n = 3$, we have $x^2 + y^2 = z^3$?

$$x^2+y^2=z$$