

$$x^2 + y^2 = z^2 \quad (1)$$

$$x^3 + y^3 = z^3$$

$$x^4 + y^4 = r^4 \quad (*)$$

$$x^5 + y^5 = r^5 \quad *$$

$$x^6 + y^6 = r^6 \quad (1')$$