

$$x^3 + y^3 = (x+y)(x^2 - xy + y^2) = 9(x^2 - \cancel{xy} + y^2)$$

$$x+y=9 \Rightarrow (x+y)^2 = 9^2 \Rightarrow x^2 + \cancel{2xy} + y^2 = 81$$

$$x+y+xy^2+xy^2=99$$

$$x^2 + y^2 = 61$$

$$xy(x+y) = 90$$

$$9xy = 90$$

$$xy = 10$$

$$x^3 + y^3 = 9(61 - 10) = \cancel{45} 459$$