• $a = 7x$ $b = 7y+5$ $a^2+b^2 = 49x^2 + 49y^2 + 70y + 25 = 7(7x^2 + 7y^2 + 10y + 3) + 4$

$7 \nmid (a^2+b^2)$ ∴ Not possible. The symmetric case is also not possible

• $a = 7x$ $b = 7y+6$ $a^2+b^2 = 49x^2 + 49y^2 + 84y + 36 = 7(7x^2 + 7y^2 + 12y + 5) + 1$

$7 \nmid (a^2+b^2)$ ∴ Not possible (The symmetric case is also not possible)

• $a = 7x+1$ $b = 7y+1$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 14y + 1 = 7(7x^2 + 2x + 7y^2 + 2y)$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad + 2$

∴ $7 \nmid (a^2+b^2)$ ∴ Not possible

• $a = 7x+1$ $b = 7y+2$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 28y + 4 = 7(7x^2 + 7y^2 + 2x + 4y)$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad + 5$

∴ $7 \nmid (a^2+b^2)$ ∴ Not possible (The symmetric case is also not possible)

• $a = 7x+1$ $b = 7y+3$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 42y + 9 = 7(7x^2 + 7y^2 + 2x + 6y$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad + 1) + 3$

∴ $7 \nmid (a^2+b^2)$ (Not possible)

(The symmetric case is also not possible)

• $a = 7x+1$ $b = 7y+4$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 56y + 16 = 7(7x^2 + 7y^2 + 2x + 8y$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad + 2) + 3$

• $a = 7x+1$ $b = 7y+5$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 70y + 25$
$\qquad\qquad\qquad\qquad\qquad = 7(7x^2 + 7y^2 + 2x + 10y + 3) + 5$

$7 \nmid a^2+b^2$ (Not possible)

(The symmetric case is also not possible)

• $a = 7x+1$ $b = 7y+6$ $a^2+b^2 = 49x^2 + 14x + 1 + 49y^2 + 84y + 36$
$\qquad\qquad\qquad\qquad\qquad = 7(7x^2 + 2x + 7y^2 + 12y + 5) + 2$

$7 \nmid a^2+b^2$ ∴ Not possible   (The symmetric case is also not possible)
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\overset{28}{\qquad}\qquad\overset{28}{\qquad}$
• $a = 7x+2$ $b = 7y+2$ $a^2+b^2 = 49x^2 + 28x + 4 + 49y^2 + 28y + 4$
$\qquad\qquad\qquad\qquad\qquad = 7(7x^2 + 4x + 7y^2 + 4y + 1) + 1$

∴ $7 \nmid a^2+b^2$ ∴ Not possible

• $a = 7x+2$ $b = 7y+3$ $a^2+b^2 = 49x^2 + 28x + 4 + 49y^2 + 42y + 9$
$\qquad\qquad\qquad\qquad\qquad = 7(7x^2 + 4x + 7y^2 + 6y + 1) + 6$