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(graphs for reference)

x	y	squares passed (z)	equation
2	1	2	z = y + 1
2	2	2	z = y
2	3	4	z = y + 1
2	4	4	z = y
2	5	6	z = y + 1
2	6	6	z = y
2	7	8	z = y + 1
2	8	8	z = y
2	9	10	z = y + 1
2	10	10	z = y
2	11	12	z = y + 1
2	12	12	z = y

ii)

x	y	squares passed (z)	equation
3	1	3	z = y + 2
3	2	4	z = y + 2
3	3	3	z = y
3	4	6	z = y + 2
3	5	7	z = y + 2
3	6	6	z = y
3	7	9	z = y + 2
3	8	10	z = y + 2
3	9	9	z = y
3	10	12	z = y + 2
3	11	13	z = y + 2
3	12	12	z = y

iii)

x	y	(z) squares passed	equation
4	1	4	z = y + 3
4	2	4	z = y + 2
4	3	6	z = y + 3
4	4	4	z = y
4	5	8	z = y + 3
4	6	8	z = y + 2
4	7	10	z = y + 3
4	8	8	z = y
4	9	12	z = y + 3
4	10	12	z = y + 2
4	11	14	z = y + 3
4	12	12	z = y

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x	y	(z) squares passed	equation
5	1	5	z = y + 4
5	2	6	z = y + 4
5	3	7	z = y + 4
5	4	8	z = y + 4
5	5	5	z = y
5	6	10	z = y + 4
5	7	11	z = y + 4
5	8	12	z = y + 4
5	9	13	z = y + 4
5	10	10	z = y
5	11	15	z = y + 4
5	12	16	z = y + 4

x	y	squares passed (z)	equation
6	1	6	z = y + 5
6	2	6	z = y + 4
6	3	6	z = y + 3
6	4	8	z = y + 4
	5	10	z = y + 5
	6	6	z = y
	7	12	z = y + 5
	8	12	z = y + 4
	9	12	z = y + 3
	10	14	z = y + 4
	11	16	z = y + 5
6	12	12	z = y

x	y	squares passed (z)	equation
	1	7	z = y + 6
	2	8	z = y + 6
	3	9	z = y + 6
	4	10	z = y + 6
	5	11	z = y + 6
	6	12	z = y + 6
	7	7	z = y
	8	14	z = y + 6
7	9	15	z = y + 6
7	10	16	z = y + 6
7	11	17	z = y + 6
7	12	18	z = y + 6

Evaluation ✓

a) there indeed is a pattern'

b) when the value of 'x' is 2, the pattern goes as follows:

i) squares passed (z) is going to equal

$$z = y + (x-1)$$

↑ the 'y' coordinate

→ however, this only works if the value of 'y' is not a multiple or divisible by 2. If it is, z will always equal to y. (z = y).

c) when the value of 'x' is 4, the pattern goes as follows:

z = y + 3 when y is 1
z = y + 2 when y is 2
z = y + 3 when y is 3
z = y when y is 4

} the pattern continues like that, y+3, y+2, y+1, y+0, etc ✓

→ the value of 'y' + ( ) the the number starts from the value of x − 1 (since x is 4, the first value is 3), then it decreases by 1 until it reaches 0.

→ same rule above applies → when y is a multiple or is divisible by the 'x' value (in this case 4), z = y the value of z will always equal the value of y.

d) when value of 'x' is 6, pattern goes:

z = y + 5
z = y + 4
z = y + 3
z = y + 4
z = y + 5
z = y

} → then continues in that pattern, y+5, +4, +3, +4, +5,

→ same rule applies, when y is a multiple / divisible by x, z = y.

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The pattern for when 'x' is an odd number is either:

i) $z = y + (x-1)$

→ works for every number unless it is a multiple or divisible by 'x'. if so, the value of z will always be the same as the value of y $(z = y)$.

ii) $z = (x+y) - 1$

→ works for every number unless it is a multiple or divisible by 'x'. If so, the value of z will always be the same as the value of y. $(z = y)$.

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i)

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