

Warm-Up

A landscape designer uses wooden boards as edging for the plots in a herb garden.



plots [p]	#boards [b]
1	4
2	7
3	10
4	13

>+3
>+3
>+3

A) Write an equation to show how to calculate the number of boards?

$$b = 3p + 1$$

B) Describe the relationship

As the plot # increases by 1, the # of boards by 3.

5. In each equation, determine the value of A when $n = 2$.

a) $A = 3n + 1$

b) $A = 3n + 2$

c) $A = 3n + 3$

d) $A = 3n + 4$

6. In a table of values for a pattern, $P = 3$ when $n = 1$; which of the following equations might represent the pattern?

a) $P = 3n$

b) $P = n + 3$

c) $P = 2n + 1$

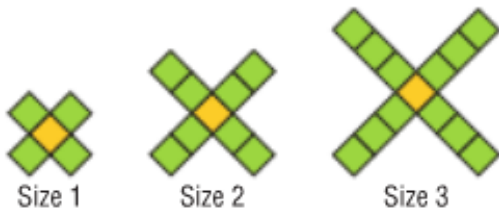
d) $P = 3 - n$

7. The pattern in this table continues. Which expression below represents the number of squares in terms of the figure number?

Figure, f	Number of Squares, s
1	6
2	7
3	8
4	9
5	10

- a) $5f$ b) $2f$ c) $f + 5$ d) $s + 5$

8. This pattern of squares continues. Which equation below relates the number of squares, n , in a picture to the size number, s ?



- a) $n = s + 4$
- b) $n = 4s$
- c) $n = 4s + 1$
- d) $s = 4n$

Size (s)	# squares (n)
1	5
2	9
3	13

$> +4$
 $> +4$

$$\underline{n = 4s + 1}$$

9. The pattern in this table continues. Which equation below relates the number of squares to the figure number?

Figure, f	Number of Squares, s
1	5
2	7
3	9
4	11
5	13

a) $s = 4f + 1$

b) $s = 2f + 3$

c) $s = f + 2$

d) $f = 2s + 3$

Here is a pattern made with toothpicks.
The pattern continues.

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A. Make a table of values.

B. Write an equation that relates the number of houses to the number of toothpicks!

$$t = 4h + 1$$

# of houses (h)	# of toothpicks (t)
1	5
2	9
3	13
4	17

Handwritten notes: $5 \rightarrow +4$, $9 \rightarrow +4$, $13 \rightarrow +4$, $17 \rightarrow +4$

c. What is the number of toothpicks needed for 156 houses?

$$h = 156$$

$$t = 4h + 1$$

$$t = 4(156) + 1$$

$$t = 624 + 1$$

$$t = 625$$

D. If you used 45 toothpicks how many houses do you have?

$$t = 45$$

$$4h + 1 = 45$$

$$t = 4h + 1$$

$$45 = 4h + 1$$

$$45 - 1 = 4h + \boxed{1 - 1}$$

$$\frac{44}{4} = \frac{4h}{4}$$

$$h = 11$$

Bob's taxi had a sign that read

Fixed cost \$3.60
+
\$1.50 per kilometre



A. Write an equation that relates the cost to the distance travelled.

$$C = 3.60 + 1.5d$$

B. What is the cost for an 11-km ride.

$$C = 3.60 + 1.5(11)$$

$$C = 3.60 + 16.25$$

$$C = \$20.10$$

A Math tutor charges \$15.75 for each hour and a fixed cost of \$8.00.



i) Write an equation that relates the cost to the hours hired

$$C = 8 + 15.75h$$

$$C = 15.75h + 8$$

ii) How much will a tutor cost for 4 hours?

$$C = 15.75(4) + 8$$

$$= 63 + 8$$

$$= \$71$$

Classwork

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11 a, b, c
equation

12 [a, c, d, e]

14

Draw
table of
values.
4 total!

Test Signed!