

Happy Pi Day!!!

March 14

3.14

π

KEEP
CALM
AND
EAT
PIE

PI DAY
PRINCETON

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

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

$$b = 3p + 1$$

B) Describe the relationship

As the # of plots increases by one the # boards increases by three

c) If you have 24 plots how many

boards are used?

$$b = 3p + 1$$

$$b = 3(24) + 1$$

$$b = 73$$

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

Handwritten annotations showing a constant increase of 1 square per figure:
 $\} +1$
 $\} +1$
 $\} +1$
 $\} +1$

Handwritten equation: $s = f + 5$

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

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

$$S = 2f + 3$$

$\curvearrowright + 2$
 $\curvearrowright + 2$
 $\curvearrowright + 2$
 $\curvearrowright + 2$

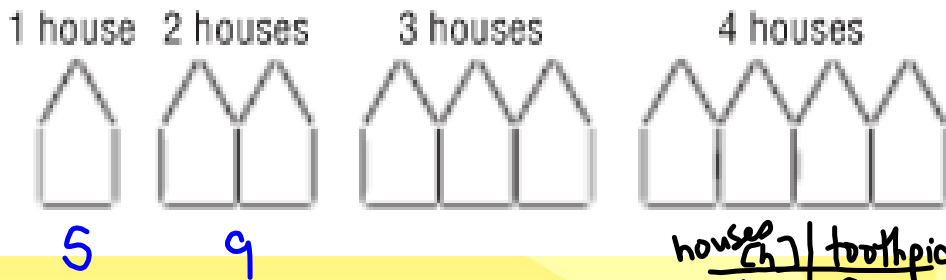
a) $s = 4f + 1$

b) $s = 2f + 3$

c) $s = f + 2$

d) $f = 2s + 3$

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



A. Make a table of values.

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

houses [h]	toothpicks [t]
1	5
2	9
3	13
4	17

$$t = 4h + 1$$

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

$$t = 4h + 1$$

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

$$t = 624 + 1$$

$$t = 625$$

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

$$t = 4h + 1$$

$$45 = 4h + 1$$

$$4h + 1 = 45$$

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

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

$$h = 11$$

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.

$$\begin{aligned} C &= 3.60 + 1.5(11) \\ &= 3.6 + 16.5 \\ C &= 20.10 \end{aligned}$$

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

$$C = 15.75h + 8 \leftarrow$$

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

$$\begin{aligned} C &= 15.75(4) + 8 \\ &= 63 + 8 \\ &= 71 \end{aligned}$$

Classwork

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11 a, b, c
equation

Draw
table of
values

12 [a, c, d, e]

13 [a, b, d, e]

14

16

Answers
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