

Numeracy Year 9 – Week 4: Algebra

STUDENT WORKSHEET

Focus of the week

Linking rules in tabular and graphical forms

Question 1

The number of dots in each Tower increases in the same way:



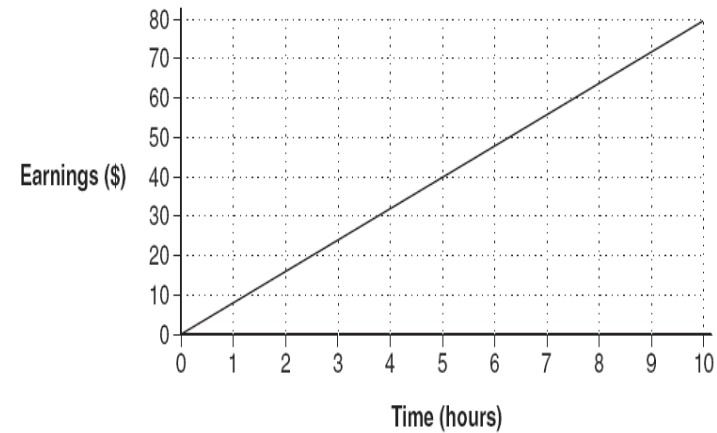
Tower number 1 Tower number 2 Tower number 3 Tower number 4

What is the rule for finding the number of dots used for any Tower number?

- Number of dots used = Tower number plus 3
- Number of dots used = 3 times the Tower number
- Number of dots used = 3 times the Tower number plus 2
- Number of dots used = 4 times the Tower number
- Number of dots used = 4 times the Tower number plus 1
- Number of dots used = 5 times the Tower number

Question 2

This graph shows how much Sam earns over time.



Which rule describes the graph of Sam's earnings?

E is earnings in dollars and t is time in hours.

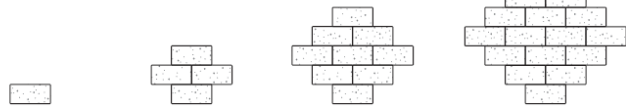
- $E = t + 7$
- $E = t + 70$
- $E = 8t$
- $E = 10t$
- $E = 80t$

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Question 3

Jen is making this brick pattern.



Shape 1 Shape 2 Shape 3 Shape 4

This table shows the number of bricks she needs for each shape in her pattern.

Shape	1	2	3	4
Number of bricks	1	4	9	16

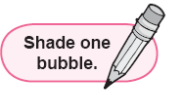
Select the rule for the 'Number of bricks', B , in terms of the 'Shape number', S ?

$B = 2S$

$B = 3S - 2$

$B = S^2$

$B = 4S - 3$



Challenge Question

Here is a table of values for x and y .

x	0	0.5	1	1.5	2
y	0	0.5	2	4.5	8

Which of these is a correct rule for y in terms of x ?

$y = x$

$y = 2x$

$y = 3x$

$y = 2x^2$