1.5 Patterns and Relationships in Tables p. 25

We can make a table of values for a relation of an expression to a variable.

Step 1: select your expression

eg. $3n + 4$

Step 2: Draw an input and output table. Put your expression in the output title box.

Input	Output
n	$3n+4$

Step 3:

Choose values for n (input numbers) and substitute these into the expression to get the output numbers.

If n = 1 then   (3)(_1_) + 4

= _3_ + 4

= _7_

$n = 3$ $3(3) + 4$

$= 9 + 4$

$= 13$

If n = 2 then (3)(_2_) + 4

= _6_ + 4

= _10_

$n = 4$ $3(4) + 4$

$= 12 + 4$

$= 16$

Input	Output
n	3n +4
1	7
2	10
3	13
4	16

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You can also determine a relation based on the table of values.

Input	Output
1	7
2	9
3	11
4	13
5	15

- Let n represent any input number.
- When n is increased by 1, the output number increases by __2__.
- This means the expression for the output number contains __2n__.
- The multiples of 2: 2,4,6,8, 10...
- These are ALL 5 __less__ than those in the table.
- So, the output is __2n+5__
- Therefore this table shows how __2n + 5__ relates to __n__.

Lets try together:

Input	Output
1	2
2	5
3	8
4	11
5	14

- When n is increased by __1__, the output number increases by __3__.
- This means the expression for the output number contains __3n__.
- The multiples of 3: 3, 6, 9, 12, 15 are all __1 more__than those in the table.
- So the output is : __3n − 1__
- Therefore, this table shows how __3n − 1__ relates to n.

  Homework: p.27 # 1-5

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