The Wilkie Way
Practice Workbook 16

Exploring Algebra

Name_____

Class _____

Extra practice to support:

Maths Aotearoa Book 3b Unit 5

Chapters 14 & 15

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Make each balance.

$26 + 7 = \boxed{} + 9$

$46 + \boxed{} = 50 + 8$

$26 + \boxed{} = 30 + 42$

$51 + 24 = 48 + \boxed{}$

$23 + \boxed{} = 21 + 37$

$31 + \boxed{} = 29 + 16$

$51 + 12 = \boxed{} + 18$

$\boxed{} + 36 = 41 + 41$

n + 26 = 58
n = 58 - 26
n = 32

58	
n	26

n + 56 = 121

n	

27 + n = 154

	n
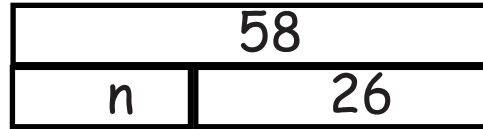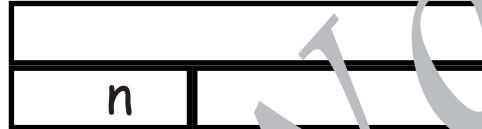
124 + n = 265

n + 756 = 800

243 = n + 78

536 - 126 + n

Challenge

23 + 68 = 73 + n

23	68
73	n

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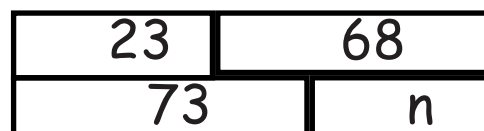
Finding the rule

Row 1	1	6	11	16		26
Row 2	2	7	12	17	22	
Row 3	3	8		18	23	28
Row 4	4	9	14		24	29
Row 5	5	10	15	20	25	30

1. Fill in the missing numbers on the grid.

2. Explain the rule for each row.

_____

3. What patterns can you see in the numbers in each row?
   Use the pattern to say which row each of these numbers
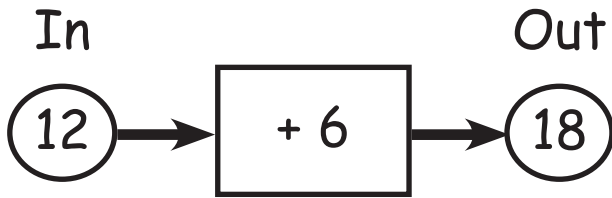   would be in.
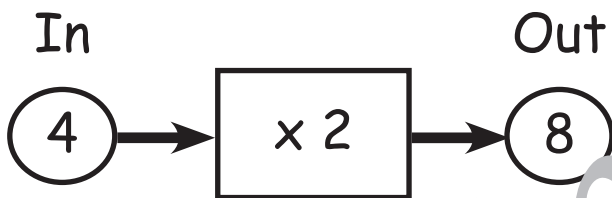
   36 _____

   43 _____

   72 _____

   60 _____

   84 _____

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Function Machines.

In → 12 → | + 6 | → Out 18
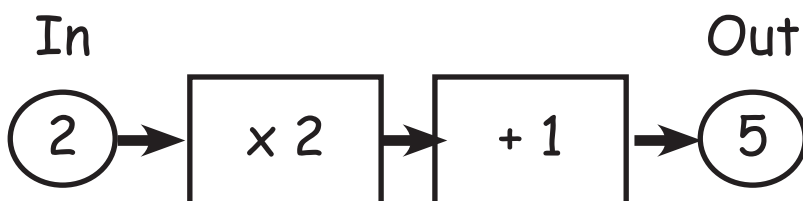
In	Out
12	18
14	
17	
	25

In → 4 → | × 2 | → Out 8

In	Out
4	8
7	
9	
	48

In → 1 → | × 5 | → Out 5

In	Out
1	5
3	
	25
	35

In → 2 → | × 2 | → | + 1 | → Out 5

In	Out
2	5
4	
8	
	23

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In → 2 → [+ 3] → [× 2] → Out 10

In	Out
2	10
4	
	18
	40

In → 6 → [× 2] → [- 4] → Out 8

In	Out
6	8
7	
	14
	20

In → 2 → [+ 3] → [× 2] → [- 1] → Out 9
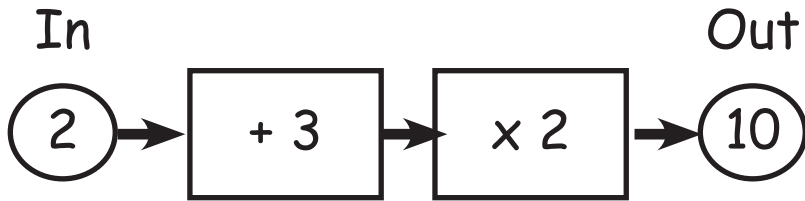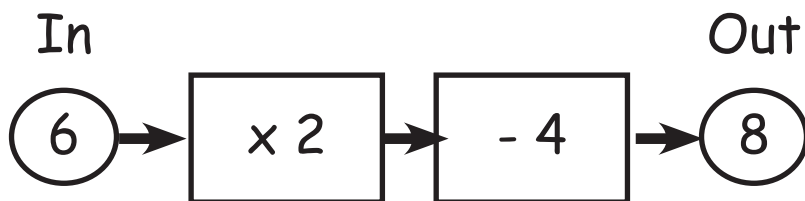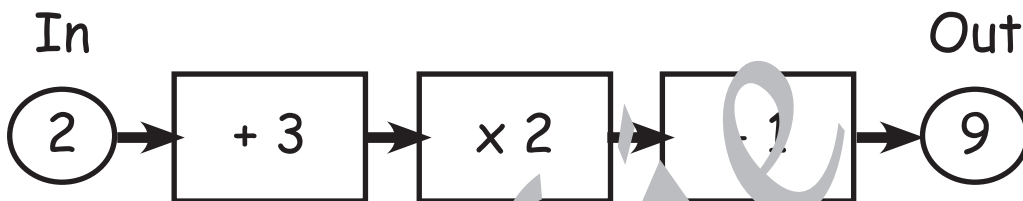
In	Out
2	9
3	
4	
	27

What has this function machine done to these numbers?

In → 2 → [ ] → [ ] → Out 12
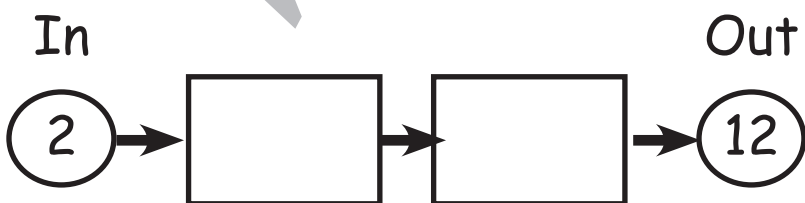
In	Out
2	12
3	14
4	16
5	18

Continue the number pattern following the rule.

+ 3

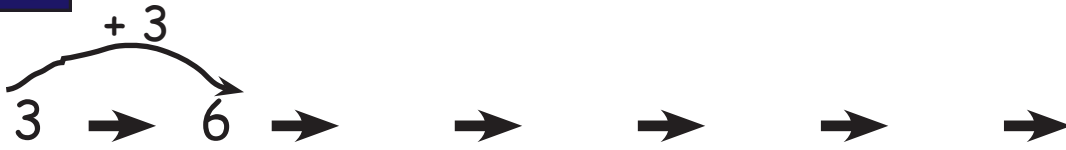3 → 6 → → → → →

× 2

3 → 6 → → → → →

× 4 - 6

3 → 6 → → → → →

+ 6

2 → 8 → → → → →

× 4

2 → 8 → → → → →

× 2 + 4

2 → 8 → → → → →

+ 3

4 → 7 → → → → →

× 2 - 1

4 → 7 → → → → →

× 3 - 5
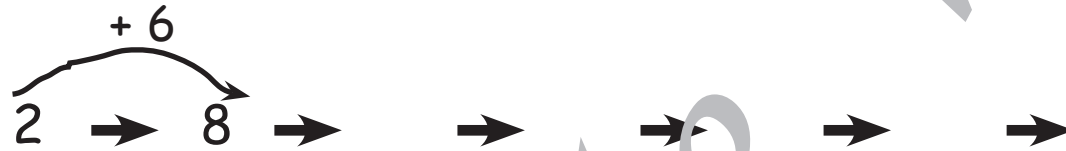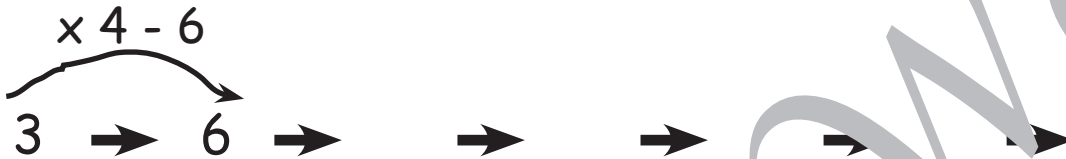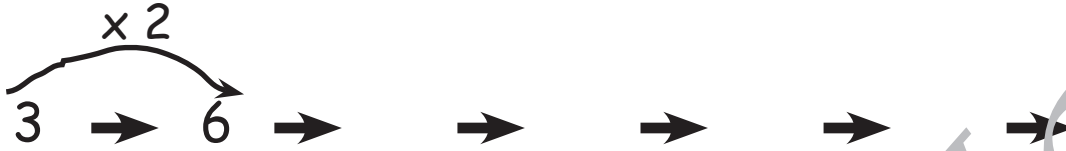
4 → 7 → → → → →

1 → 7 → 13 → 19 → 25   Rule: _____

1 → 2 → 4 → 8 → 16   Rule: _____

2 → 5 → 14 → 41 → 122   Rule: _____

3 → 8 → 18 → 38 → 78   Rule: _____

8 → 12 → 20 → 36 → 68   Rule: _____

5 → 18 → 57 → 174 → 525   Rule: _____

3 → 8 → 13 → 18 → 23   Rule: _____

124 → 113 → 102 → 91 → 80   Rule: _____

2 → 10 → 50 → 250 → 1250   Rule: _____

3 → 12 → 48 → 192 → 768   Rule: _____