TABLES OF VALUES

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

A function machine has an input and an output.

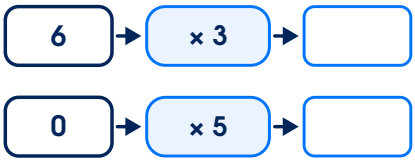
In a table of values, x is the input and y is the output.

y = 2x means "multiply x by 2".



1 Complete the function machines.





2 When x = 5, work out each value.

Remember: 3x means 3 × x.

x + 3 = ☐ **3x =** ☐ **x – 1 =** ☐ **10 – x =** ☐

3 Complete the table of values for y = x + 2

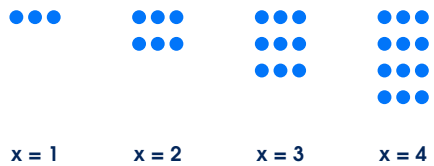


x	0	1	2	3	4
y	2				

When x = 0, y = 0 + 2 = 2

4 a) Complete the table of values for y = 3x. Each dot picture shows 3 lots of x.

x	1	2	3	4
y	3			



b) Each time x goes up by 1, y goes up by ☐

TABLES OF VALUES

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

Substitute each x-value into the equation to find y.

y = 2x + 1. When x = 3: y = 2 × 3 + 1 = 7

x	0	1	2	3
y	1	3	5	7

1 Complete each table of values.

a) **y = x + 5**

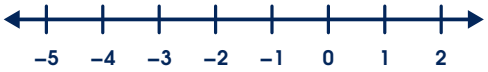
x	0	1	2	3	4
y					

b) **y = 4x**

x	0	1	2	3	4
y					

2 Complete the table of values for y = x – 3

x	–2	–1	0	1	2
y	–5				



Use the number line to help.

3 Complete the table of values for y = 2x + 4

When x = 0, y = 2 × 0 + 4 = ____

When x = 1, y = 2 × 1 + 4 = ____

x	0	1	2	3
y				

4 Kim made this table of values for y = 4x. She made one mistake.

x	0	1	2	3
y	4	4	8	12

a) Circle the wrong y-value.

b) What should it be? ____

TABLES OF VALUES

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Substitute each x-value, using the order of operations. The x-values do not have to go up in 1s.

FLUENCY

1 Complete each table of values.

a) $y = 3x - 2$

x	–2	–1	0	1	2	3
y						

b) $y = 10 - 2x$

x	–1	0	1	2	3	4
y						

2 Complete the table of values for $y = 5x + 1$

x	–3	0	2	7	10
y					

REASONING

3 Which equation made each table? One equation is not used.

$y = 2x + 1$ $y = x + 3$ $y = 3x - 1$

A

x	1	2	3	4
y	4	5	6	7

Equation: _____

B

x	1	2	3	4
y	2	5	8	11

Equation: _____

4 Jo made this table of values for $y = 2x + 3$

x	1	2	4	5
y	5	7	9	11

Jo says, "The y-values go up by 2 each time, so my table must be right." Is Jo right? Explain.

TABLES OF VALUES

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) In a table for $y = 3x + c$, when x goes up by 1, y goes up by 3. ALWAYS SOMETIMES NEVER

b) For $y = x - 5$, the y-value is less than the x-value. ALWAYS SOMETIMES NEVER

c) For $y = 2x$, the y-value is greater than the x-value. ALWAYS SOMETIMES NEVER

d) For $x + y = 6$, when x goes up by 1, y goes up by 1. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 This is part of a table of values for $y = 4x - 3$

x			
y	13	−11	0

Find the missing x-values.

3 Find the equation that made each table of values.

A

x	1	2	3	4
y	7	10	13	16

y = _____

B

x	−1	0	2	5
y	9	7	3	−3

y = _____

★ CHALLENGE FOR ALL

4 a) Complete the table of values for $y = 0.5x - 1.5$

x	−3	−1	0	2	5
y					

b) Which value of x gives $y = 4$? _____

TABLES OF VALUES

ANSWERS

BUILDING BLOCKS

1 9 · 18 · 5 · 0
2 8 · 15 · 4 · 5
3 y = 2, 3, 4, 5, 6
4 a) y = 3, 6, 9, 12 · b) 3

SUPPORT

1 a) 5, 6, 7, 8, 9 · b) 0, 4, 8, 12, 16
2 –5, –4, –3, –2, –1
3 4 · 6 · table: 4, 6, 8, 10
4 a) The first 4 (when x = 0) · b) 0, because 4 × 0 = 0

CORE

1 a) –8, –5, –2, 1, 4, 7 · b) 12, 10, 8, 6, 4, 2
2 –14, 1, 11, 36, 51
3 A: y = x + 3 · B: y = 3x – 1 (y = 2x + 1 is not used)
4 No. The x-values jump from 2 to 4, so y should go up by 4 there: when x = 4, y = 11 and when x = 5, y = 13. The y-values only go up by 2 when x goes up by 1.

GREATER DEPTH

1 a) Always · b) Always · c) Sometimes: true for x = 3 (y = 6), false for x = –3 (y = –6) and x = 0 · d) Never: y goes down by 1
2 4 · –2 · 0.75
3 A: y = 3x + 4 · B: y = 7 – 2x (or y = –2x + 7)
4 a) –3, –2, –1.5, –0.5, 1 · b) x = 11