

Relationships Worksheet.

1. a) Copy and complete the following table.

B	1	2	3	4	5	6
L	6	12	18			

b) Write down a formula connecting B and L. (It should start L =)

2. a) The cost of hiring a bike is £2 every hour. Copy and complete the following table

No of Hours (H)	1	2	3	4	5	6
Cost in £'s (C)	2	4	6			

b) By how much does the cost rise for each extra hour?

c) Write down a formula connecting H and C. (It should start C =)

d) Use your formula to find the cost of hiring the bike for 12 hours.

3. a) A car has 5 tyres. (4 on the road + 1 spare) Copy and complete the table.

No of Cars (C)	1	2	3	4	5	6
No of tyres (T)	5	10	15			

b) Write down a formula connecting C and T.

c) Use your formula to find the number of tyres on 15 cars.

4. Copy and complete each table and determine a formula connecting the two letters.

a)

No of Chairs (C)	1	2	3	4	5	6
No of Legs (T)	4	8	12			

T =

b)

No of Cats (C)	1	2	3	4	5	6
No of Whiskers (W)	16	32	48			

W =

c)

No of Cakes (P)	3	4	5	6	7	8
Cost in Pence (C)	18	24	30	36		

 C =

d)

No of Sweets (S)	2	4	6	8	10	12
Cost in Pence (C)	18	36	54			

 C =

5. For each of the following tables, determine a formula in the form $y =$

a)

x	0	1	2	3	4	5
y	0	2	4			

b)

x	0	1	2	3	4	5
y	0	3	6			

c)

x	1	2	3	4	5	6
y	5	10	15			

d)

x	1	2	3	4	5	6
y	0.5	1	1.5			

e)

x	1	2	3	4	5	6
y	3.5	7				

f)

x	0	2	4	6	8	10
y	0	2	4			

6. These ones are a bit tougher. Try them in the same way as the ones above by finding a formula in the form $y =$. But remember you will have to add or subtract once you have multiplied.

a)

x	0	1	2	3	4	5
y	1	3	5			

b)

x	0	1	2	3	4	5
y	4	7	10			

c)

x	1	2	3	4	5	6
y	6	7	8			

d)

x	1	2	3	4	5	6
y	10	13	16			

e)

x	1	2	3	4	5	6
y	8	13				

f)

x	0	2	4	6	8	10
y	1	9	17			

Relationships Answers.

1 a)

B	1	2	3	4	5	6
L	6	12	18	24	30	36

b) $L = 6B$

2 a)

No of Hours (H)	1	2	3	4	5	6
Cost in £'s (C)	2	4	6	8	10	12

b) £2

c) $C = 2H$

d) $C = 2H$

$$C = 2 \times 12$$

$$C = \text{£}24$$

3 a)

No of Cars (C)	1	2	3	4	5	6
No of tyres (T)	5	10	15	20	25	30

b) $T = 5C$

c) $T = 75$ tyres

4 a)

No of Chairs (C)	1	2	3	4	5	6
No of Legs (T)	4	8	12	16	20	24

$$T = 4C$$

b)

No of Cats (C)	1	2	3	4	5	6
No of Whiskers (W)	16	32	48	64	80	96

$$W = 16C$$

c)

No of Cakes (P)	3	4	5	6	7	8
Cost in Pence (C)	18	24	30	36	42	48

$$C = 6P$$

d)

No of Sweets (S)	2	4	6	8	10	12
Cost in Pence (C)	18	36	54	72	90	108

$$C = 9S$$

5 a)

x	0	1	2	3	4	5
y	0	2	4	6	8	10

$$y = 2x$$

b)

x	0	1	2	3	4	5
y	0	3	6	9	12	15

$$y = 3x$$

c)

x	1	2	3	4	5	6
y	5	10	15	20	25	30

$$y = 5x$$

d)

x	1	2	3	4	5	6
y	0.5	1	1.5	2	2.5	3

$$y = 0.5x$$

e)

x	1	2	3	4	5	6
y	3.5	7	10.5	14	17.5	21

$$y = 3.5x$$

f)

x	0	2	4	6	8	10
y	0	2	4	6	8	10

$$y = x$$

6a)

x	0	1	2	3	4	5
y	1	3	5	7	9	11

$$y = 2x + 1$$

b)

x	0	1	2	3	4	5
y	4	7	10	13	16	19

$$y = 3x + 4$$

c)

x	1	2	3	4	5	6
y	6	7	8	9	10	11

$$y = x + 5$$

d)

x	1	2	3	4	5	6
y	10	13	16	19	22	25

$$y = 3x + 7$$

e)

x	1	2	3	4	5	6
y	8	13	18	23	28	33

$$y = 5x + 3$$

f)

x	0	2	4	6	8	10
y	1	9	17	25	33	41

$$y = 4x + 1$$