

FINDING THE RULE

PART I

Write a rule for each T-table. Each rule involves one operation.

1.

input	output
3	10
8	15
4	11
12	19
26	33

Rule: _____

2.

input	output
49	41
9	1
34	26
11	3
16	8

Rule: _____

3.

input	output
2	6
1	3
6	18
3	9
10	30

Rule: _____

4.

input	output
12	3
4	1
16	4
8	2
0	0

Rule: _____

5.

input	output
10	5
6	1
16	11
8	3
11	6

Rule: _____

6.

input	output
2	14
4	28
10	70
1	7
5	35

Rule: _____

PART II

Write a rule for each T-table. Each rule involves two operations. For example, the rule "x4, +3" means to multiply by 4, then add 3.

1.

input	output
49	52
6	9
3	6
1	4
9	12

Rule: _____

2.

input	output
3	5
7	25
12	50
2	0
32	150

Rule: _____

3.

input	output
16	28
5	6
3	2
9	14
32	60

Rule: _____

4. input	output
3	15
18	60
7	27
9	33
1	9

Rule: _____

5. input	output
10	9
2	5
8	8
16	12
24	16

Rule: _____

6. input	output
21	20
4	3
14	13
10	9
33	32

Rule: _____

PART III

Write a rule for each T-table. Each rule involves two operations. Also, find the missing input or output numerals.

1. input	output
5	_____
1	4
12	59
20	_____
8	39

Rule: _____

2. input	output
6	0
17	11
12	6
7	_____
9	_____

Rule: _____

3. input	output
16	63
4	_____
2	_____
21	83
8	31

Rule: _____

4. input	output
2	_____
10	30
21	_____
5	15
12	36

Rule: _____

5. input	output
_____	10
3	2
_____	0
9	6
21	14

Rule: _____

6. input	output
24	7
_____	4
_____	1
4	2
16	5

Rule: _____

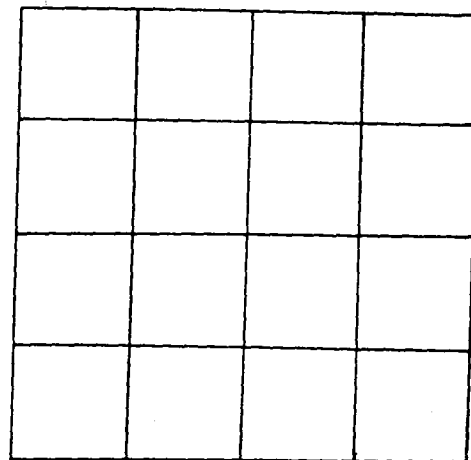
WORK SHEET 6

Look for a Pattern

1 Complete the next four in each sequence:

- (a) 2, 4, 6, 8, _____, _____, _____, _____.
- (b) A, C, E, G, _____, _____, _____, _____.
- (c) AL, BM, CN, DO, _____, _____, _____, _____.
- (d) 1, 2, 4, 7, 11, _____, _____, _____, _____.
- (e) 1, 4, 9, 16, _____, _____, _____, _____.
- (f) Z, W, T, Q, N, _____, _____, _____, _____.
- (g) 128, 64, 32, 16, _____, _____, _____, _____.

2 How many squares are there in this diagram?



3 If on your first birthday you received \$1, and then on your second birthday you received \$2, on your third birthday \$4, and so on, with the amount doubling each year, on which birthday would you receive over \$2000?

4 Find a pattern, and work out the missing numbers.

9	11			14	8
6	4	2	5		
3	7	4	1	8	
18		8		48	15

5 Work out these answers:

$$20 + 2 =$$

$$200 + 20 + 2 =$$

$$2000 + 200 + 20 + 2 =$$

Can you predict what the answers to the following will be?

$$20\ 000 + 2000 + 200 + 20 + 2 =$$

$$400 + 40 + 4 =$$

$$6000 + 600 + 60 + 6 =$$

$$70\ 000 + 7000 + 700 + 70 + 7 =$$

6 A bus picked up passengers at the following rate:

- 1 passenger at the 1st stop,
- 3 passengers at the 2nd stop,
- 5 passengers at the 3rd stop,
- 7 passengers at the 4th stop,
- and so on.

- (a) How many passengers got on the bus at the 12th stop?
- (b) How many people were on the bus after the
 - 5th stop?
 - 10th stop?
 - 15th stop?

Mathematics is often defined as the study of pattern. Some number patterns are started below. Look for a pattern. When you find one, extend it. Fill in the blanks with your numbers, then describe the patterns in words.

1. 1976, 1980, 1984, _____, _____, _____

Description: _____

2. 91, 82, 73, _____, _____, _____, _____, _____

Description: _____

3. 1, 10, 100, _____, _____, _____

Description: _____

4. 37, 41, 45, 49, _____, _____, _____, _____

Description: _____

5. 121, 232, 343, _____, _____, _____

Description: _____

6. 117, 126, 135, 144, 153, _____, _____, _____, _____

Description: _____

7. 12, 24, 36, 48, 510, _____, _____, _____

Description: _____

8. 1, 4, 9, 16, _____, _____, _____, _____

Description: _____

9. 1, 8, 27, _____, _____, _____

Description: _____

10. 1, 3, 6, 10, 15, _____, _____, _____

Description: _____