

SHARP

Worksheet 6: Numeric and Geometric Patterns

Grade 9 Mathematics

1. Complete the following patterns by filling in the next three terms.

a) 2, 4, 6, 8 ...

b) 4, 7, 10, 13 ...

c) 2, 4, 8, 16...

d) 7, 5, 2, -2 ...

e) $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \dots$

f) 3, 9, 15, 21...

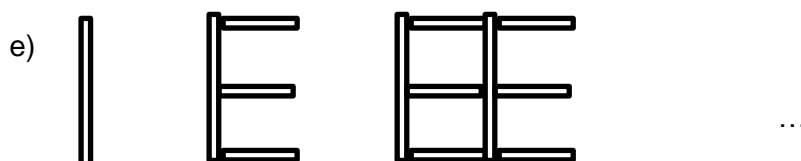
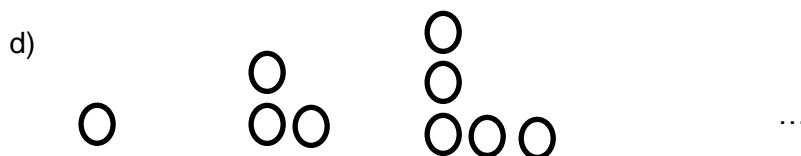
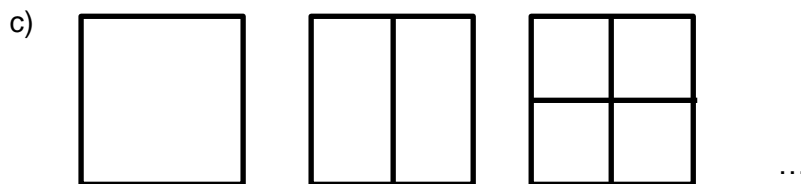
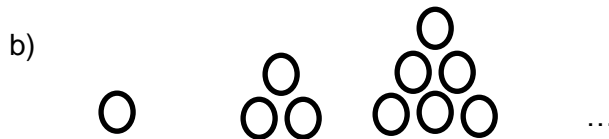
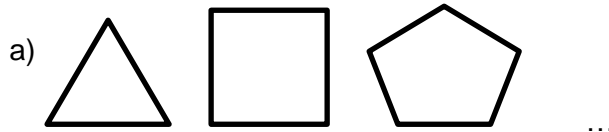
g) 1, 4, 9, 16 ...

h) 0, 3, 8, 15 ...

i) 1, 8, 27, 64 ...

j) 5, 12, 19, 26 ...

2. Complete the following patterns by drawing in the next three terms.



3. For the patterns in questions 1 and 2, write down in words what the pattern is.
4. For each of the patterns in question 1, write down the formula in terms of x (the input) and y (the answer).

*Leave out question 1d.

5. Complete the following tables by filling in the missing input and output values and the formula for the pattern.

a)

x	-2	-1	0	1	2	7			n
y		-7	-4	-1			26	44	

b)

x	-2	-1	0	1	2	9			n
y		7	5	3			-21	-33	

c)

x	-2	-1	0	1	2	8			n
y		1	0	1	4		121	225	

d)

x	-2	-1	0	1	2	4			n
y		0.5	1	2			128	2048	

e)

x	-2	-1	0	1	2	4			n
y		15	12	9			-9	-24	