

Grade 8 Mathematics

Revision Workshop on 2nd June 2026

Number patterns

Consider the following patterns and try to complete the tables which follow:

fig. 1



fig. 2

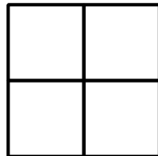


fig. 3

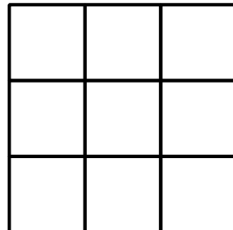


Fig.	1	2	3	4	5	9		n	
Number of small squares							144		p

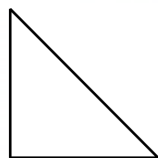


Fig. 1

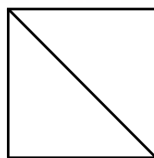


Fig. 2

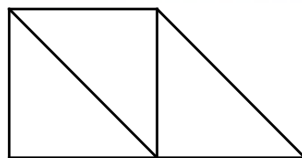


Fig. 3

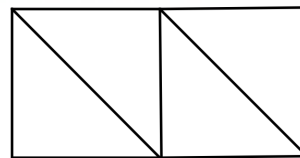


Fig. 4

Fig.	1	2	3	4	5	n		
Number of triangles							t	
Number of lines								p



**SHAYA IZIBALO
MATHS INSTITUTE**
inspired by the love of Christ
no fear and no apology

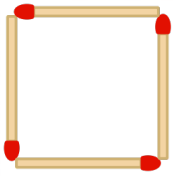


Fig. 1

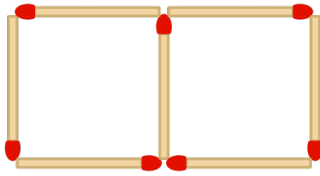


Fig. 2

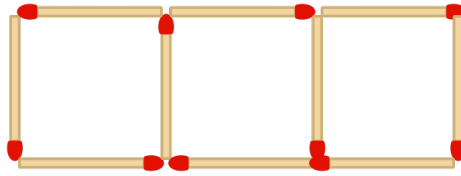


Fig. 3

Fig.	1	2	3	4	5			n		
Number of squares						8			p	
Number of matches							34			m

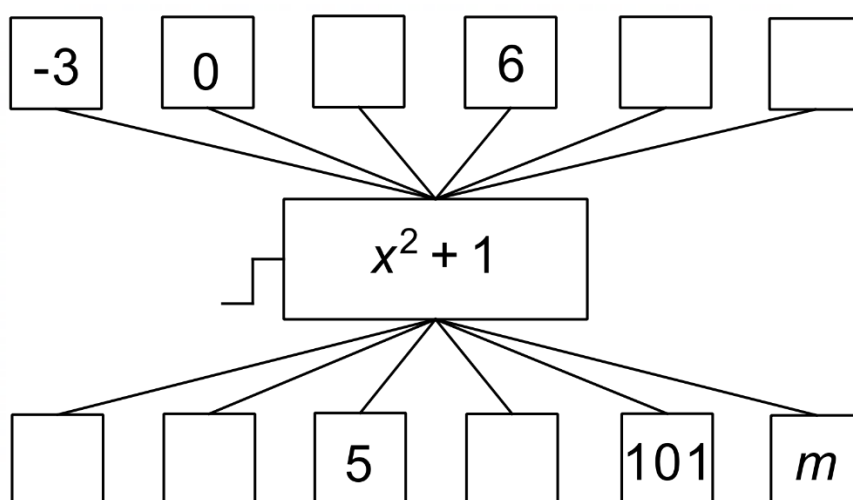
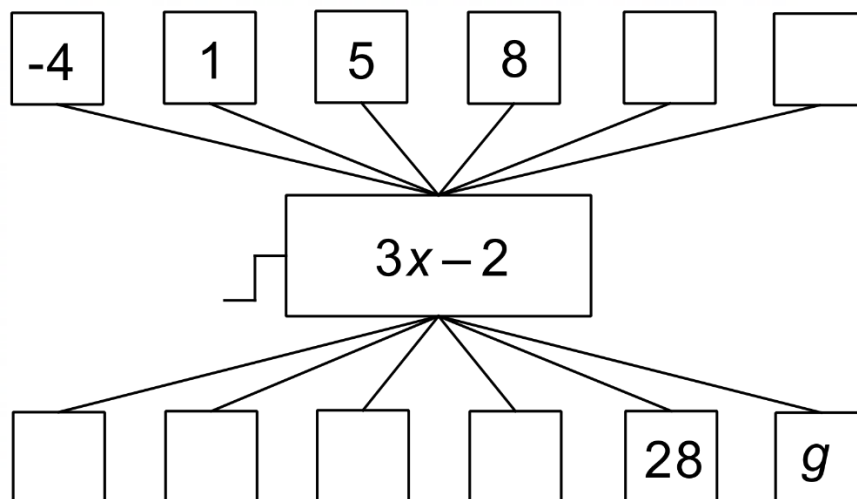
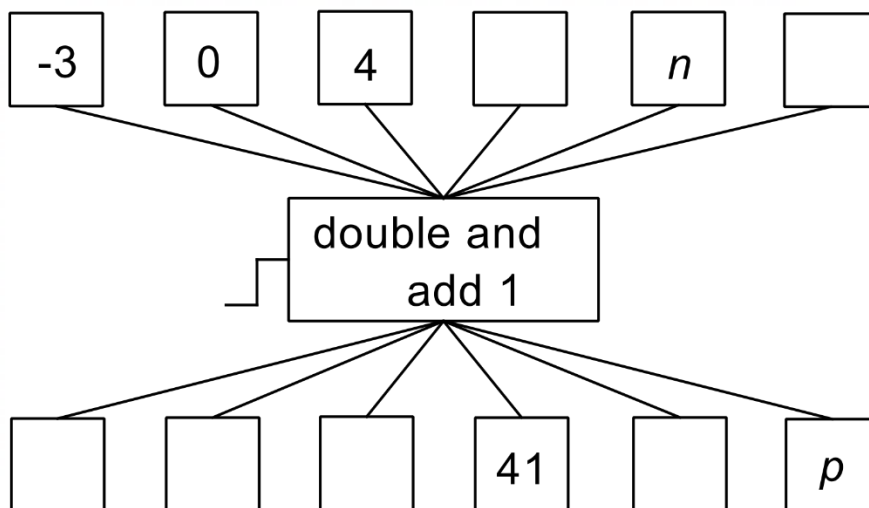
Try to complete the following tables by finding a rule to get from the top row to the bottom row and back.

1	2	3	4	10			a	
3	5	7			51	61		b

1	2	3	4	10			c	
2	5	8			29	59		d

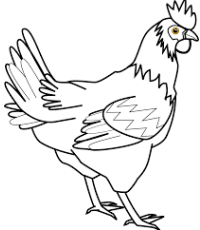
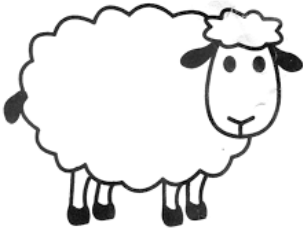
1	2	3	4	10			e	
2	6	10			98	398		f

Complete the following number machines:



Functions and relationships

Complete the following table:

		Total number of eyes	Total number of legs
5	3		
2	4		
6		16	
	2		14
a	b		
c		d	
e			f

A taxi charges R20 to come to your home and then R4 per km.

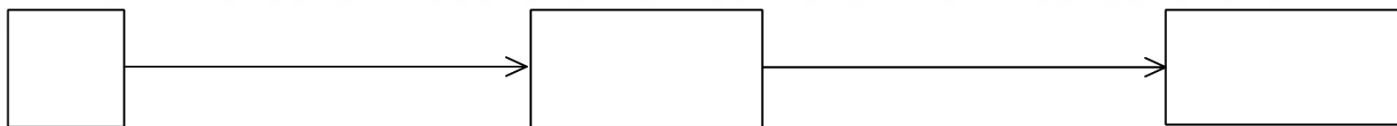
Complete the following table



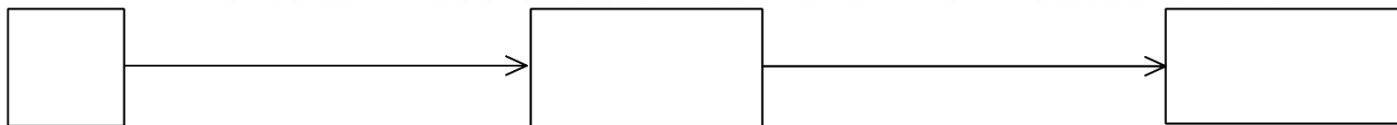
Distance travelled (km)	Cost (R)
10	
20	
	420
d	
	c

Complete the following flow diagrams

- a. b is doubled and then 1 is added to the result



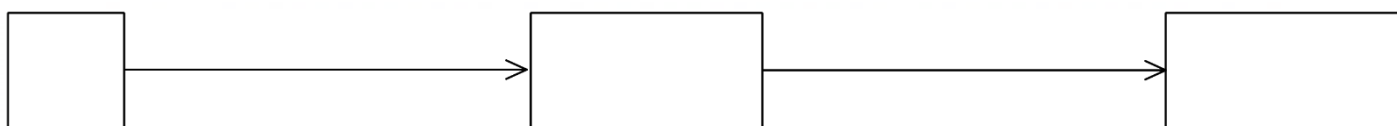
- b. m is squared and then three is subtracted



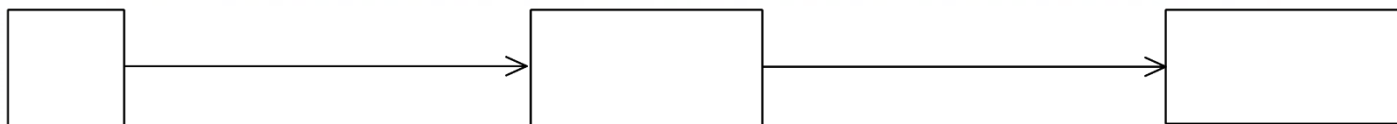
- c. x has 4 added and then the result is doubled



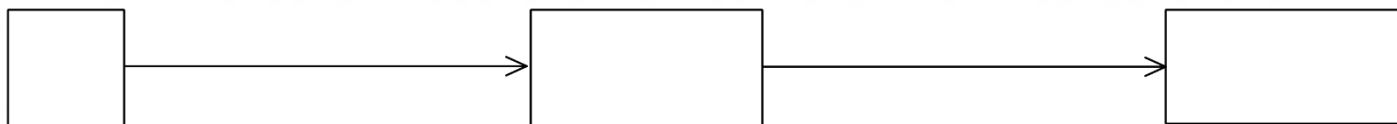
- d. We find the square root of t and then add 15



- e. We add 2 to t and then find the square root of the result



- f. Multiply p by 4 and then subtract 3



Algebraic expressions

Complete these “think of a number” problems

English	Example			
Think of a number				
Add 5				
Multiply by 4				
Subtract 8				
Divide by 4				
Subtract the number you started with				

Compare your answers. What do you notice? Do you think this will ALWAYS be true?

Now try this one!

English	Example			
Think of a number				
Subtract 2				
Double your answer				
Add 8				
Halve your answer				
Subtract 2				

Compare your answers. What do you notice? Do you think this will ALWAYS be true?

Give an algebraic expression for the following:

- a. the number of months in m years
- b. a number 6 bigger than b
- c. a number half as big as a
- d. the number represented by p dozen
- e. the number of people in d couples (a couple is 2!)
- f. a number 9 less than g
- g. double t and then add 5
- h. multiply k by -2 and then subtract 2
- i. The number of people in g soccer teams (11 in a team!)
- k. The number of legs on e elephants and d ducks

Substitution into algebraic expressions:

If $a = -2$ and $b = 5$ then **evaluate** (find the value of):

$$2a + b$$

$$a - b$$

$$b - a$$

$$a^2b$$

$$\sqrt{4b + a - 2}$$

$$ab^2$$

Simplify the following:

$$5x + 3x$$

$$3x + y + 7x$$

$$2x + 3y$$

$$4a - 3b + 7a + 8b$$

$$2g \times 5h$$

$$3x^2 \times 2x^3$$

$$4ab + 5ba$$

$$a^2b + 6ab^2 + 4ba^2 + 3b^2a$$

$$3ab + 2a \times 4b$$

$$(2x^6)(3x^5)$$

$$3(x + 3) + 2x$$

$$4(x - 2) + 3(x + 1)$$

$$2(x + 4) - 3(x - 5)$$

$$\frac{8b + 4}{2}$$

$$\frac{12g + 6}{3} - 5g + 2$$