

Term 2 Revision Workshop for GRADE 8 on 2 June 2026

Tuesday, 02 June 2026 11:53



Term 2
Revision ...

Grade 8 Mathematics

Revision Workshop on 2nd June 2026

Variables

Number patterns

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

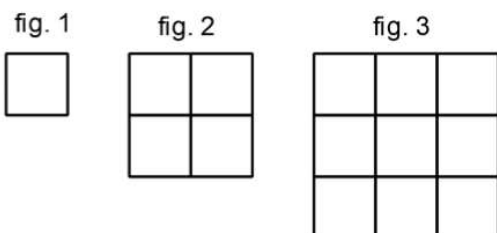


Fig.	1	2	3	4	5	9	12	n	$\sqrt{p}$
Number of small squares	1	4	9	16	25	81	144	$n \times n$ n^2	p

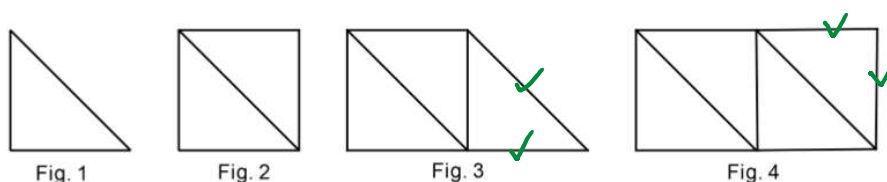


Fig.	1	2	3	4	5	n	t	$(p-1) \div 2$ or $\frac{p-1}{2}$
Number of triangles	1	2	3	4	5	n	t	$\frac{p-1}{2}$
Number of lines	3	5	7	9	11	$2n+1$	$2t+1$	p

-1
then
 $\div 2$

increasing by 2

2x
fig.no.
+ 1



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inspired by the love of Christ

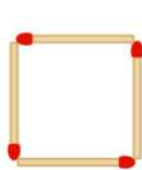


Fig. 1

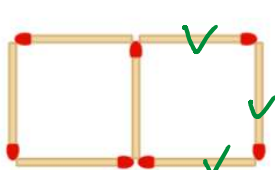


Fig. 2

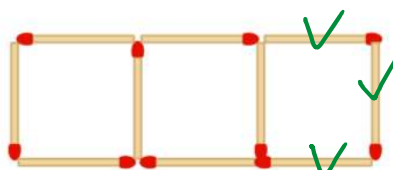


Fig. 3

Fig.	1	2	3	4	5	8	11	n	P	$\frac{m-1}{3}$
Number of squares	1	2	3	4	5	8	11	n	p	$\frac{m-1}{3}$
Number of matches	4	7	10	13	16	25	34	$3n+1$	$3p+1$	m

Fig. no $\times 3$
+ 1

-1
then $\div 3$

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

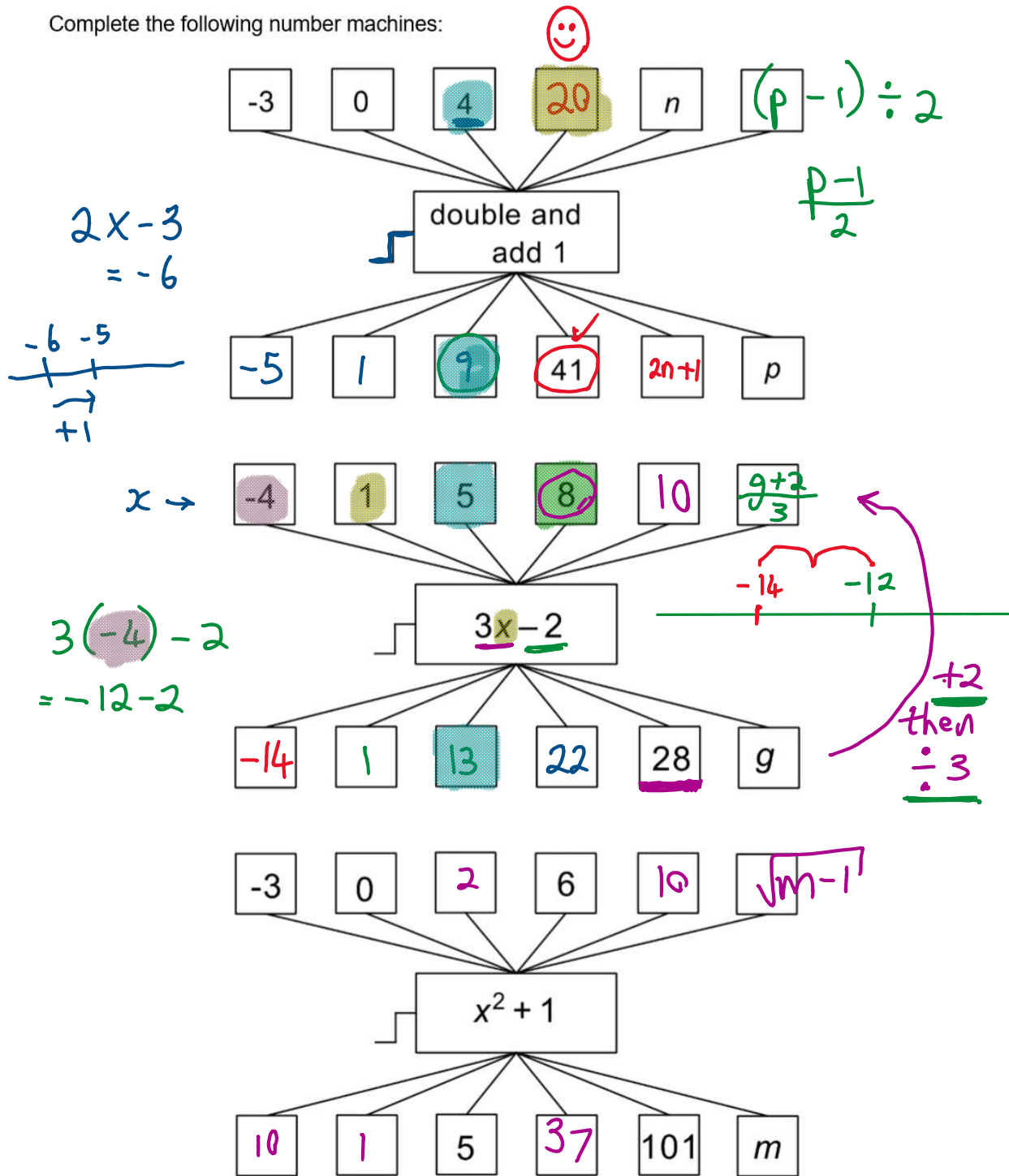
1	2	3	4	10	25	30	a	$\frac{b-1}{2}$
3	5	7	9	21	51	61	$2a+1$	b

$2 \times \text{top no.} + 1 \rightarrow \text{bottom no.}$
 $-1 \text{ then } \div 2 \rightarrow \text{top no.}$

1	2	3	4	10	10	20	c	$\frac{d+1}{3}$
2	5	8	11	29	29	59	$3c-1$	d

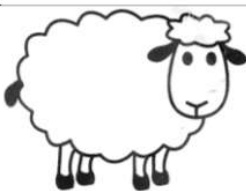
1	2	3	4	10	25	100	e	$\frac{f+2}{4}$
2	6	10	14	38	98	398	$4e-2$	f

Complete the following number machines:



Functions and relationships

Complete the following table:

		Total number of eyes	Total number of legs
5	3	$5(2) + 3(2) = 16$	$5(2) + 3(4) = 22$
2	4	$2(2) + 4(2) = 12$	$2(2) + 4(4) = 20$
6 → 12 eyes	2 4 eyes	16	20
3	2	10	14
a	b	$a \times 2 + b \times 2 = 2a + 2b$	$2a + 4b$
c	$\frac{d-2c}{2}$	d	$2c + 4\left(\frac{d-2c}{2}\right)$
e	$\frac{f-2e}{4}$	$2e + 2\left(\frac{f-2e}{4}\right)$	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	$20 + 10(4) = 60$
20	$20 + 20(4) = 100$
$\frac{420-20}{4}$	420
d	$20 + 4d$
$\frac{c-20}{4}$	c

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Variable

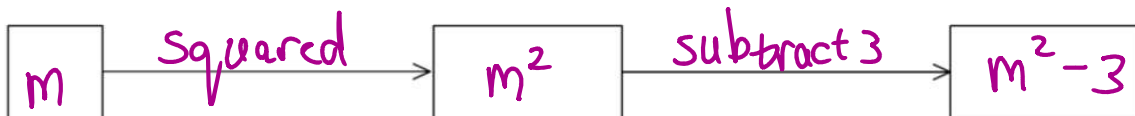
VARY
shintsha

Complete the following flow diagrams

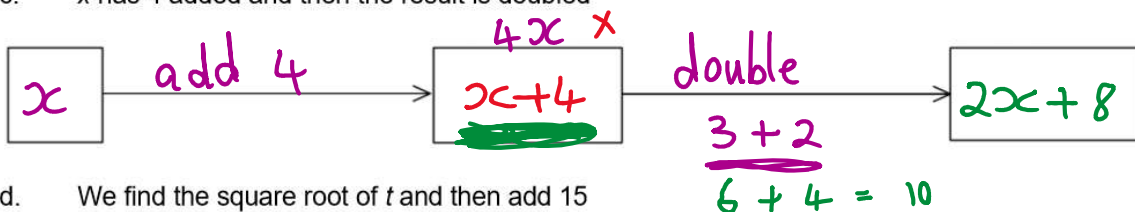
- a. b is doubled and then 1 is added to the result



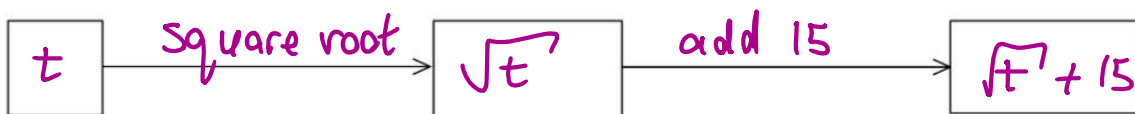
- b. m is squared and then three is subtracted



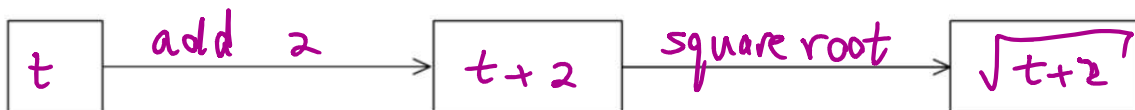
- c. x has 4 added and then the result is doubled



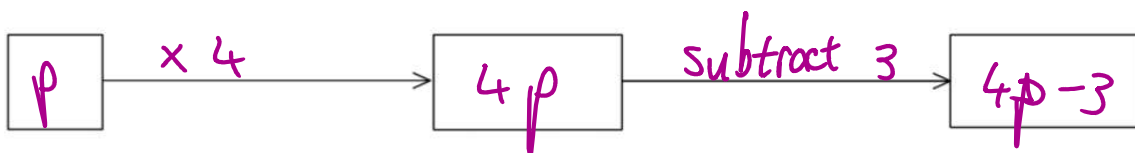
- d. We find the square root of t and then add 15



- 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	3	10	0	h
Add 5	8	15	5	$h+5$
Multiply by 4	32	60	20	$4h+20$
Subtract 8	24	52	12	$4h+12$
Divide by 4	6	13	3	$h+3$
Subtract the number you started with	3	3	3	3

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	7	11	3	p
Subtract 2	5	9	1	$p-2$
Double your answer	10	18	2	$2p-4$
Add 8	18	26	10	$2p+4$
Halve your answer	9	13	5	$p+2$
Subtract 2	7	11	3	p

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

6 cakes
12 eggs 6 cups flour

1 cake
2 eggs 1 cup flour

2 cakes
4 eggs 2 cups flour

$$\begin{array}{r} +8 \\ \hline -4 \end{array}$$

Give an algebraic expression for the following:

- a. the number of months in m years

$$3 \rightarrow 36$$

$$m \times 12 = 12m$$

$$10 \rightarrow 120$$

$$5 \rightarrow 60$$

- b. a number 6 bigger than b

$$10 \rightarrow 16$$

$$3 \rightarrow 9$$

$$1 \rightarrow 7$$

$$b + 6$$

- c. a number half as big as a

$$\frac{1}{2} \text{ as big as } 6 \rightarrow 3$$

$$\frac{1}{2} \text{ as big as } 10 \rightarrow 5$$

$$\frac{10}{2}$$

$$\frac{a}{2}$$

- d. the number represented by p dozen

$$p \times 12 = 12p$$

$$1 \text{ dozen} = 12$$

$$3 \text{ dozen} = 3 \times 12$$

- e. the number of people in d couples (a couple is 2!)

$$d \times 2 = 2d$$

$$5 \text{ couples} \rightarrow 10$$

$$20 \text{ couples} \rightarrow 40$$

- f. a number 9 less than g

$$a \text{ number } 9 \text{ less than } 11 = 11 - 9$$

$$9 \text{ less than } 15$$

- g. double t and then add 5

$$9 - 9$$

$$15 - 9$$

$$t \times 2 + 5 = 2t + 5$$

- h. multiply k by -2 and then subtract 2

$$-2 \times -2$$

- i. The number of people in g soccer teams (11 in a team!)

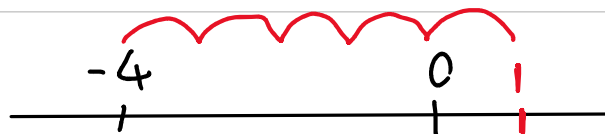
$$g \times 11 = g11 = 11g$$

- k. The number of legs on e elephants and d ducks

$$\text{Total no. of legs} = 4e + 2d$$

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Substitution into algebraic expressions:



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

$$2a + b$$

$$2(-2) + 5 = -4 + 5$$

$$= 1$$

$$a^2b$$

$$= (-2)^2(5)$$

$$= (4)(5) = 20$$

Simplify the following:

$$5x + 3x$$

$$= 8x$$

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

$$= 11a + 5b$$

$$4ab + 5ba$$

$$= 9ab$$

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

$$= 6x^{11}$$

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

$$= 2x + 8 - 3x + 15$$

$$= -x + 23$$

$$a - b$$

$$= -2 - 5 = -7$$

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

$$= \sqrt{4(5) + (-2) - 2}$$

$$= \sqrt{16} = 4$$

$$3x + y + 7x$$

$$= 10x + y$$

$$2g \times 5h$$

$$= 10gh$$

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

$$= 5a^2b + 9ab^2$$

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

$$= 3x + 9 + 2x$$

$$= 5x + 9$$

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

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

$$= 4b + 2$$

$$b - a$$

$$= 5 - (-2)$$

$$= 5 + 2 = 7$$

$$ab^2$$

$$= -2 \times 5^2$$

$$= -2 \times 25$$

$$= -50$$

$$2x + 3y$$

$$= 2x + 3y$$

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

$$= 6x^5$$

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

$$= 3ab + 8ab$$

$$= 11ab$$

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

$$= 4x - 8 + 3x + 3$$

$$= 7x - 5$$

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

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

$$= 4g + 2 - 5g + 2$$

$$= -g + 4$$