



RAPHA EXAMINATIONS BOARD
P.7 ALGEBRA EDITION 2024
MATHEMATICS DEPARTMENT
BY TR. DAVID BALYOMUNSI

ALGEBRA

1. FORM THE FOLLOWING ALGEBRAIC EXPRESSIONS

1.	4 less than a	5.	3 subtracted from a number	9.	A number divided by 3
2.	X less than 12	6.	2 divided by a number	10.	Subtract 2 from y
3.	A number added to 10	7.	John is 5years older than Mary	11.	a minus b equal to c
4.	Three more than x equals to 7	8.	Double x	12.	Product of a and b

2. What is the meaning of the following algebraic expressions?

1.	$a + b$	5.	—	9.	$a(b - c)$
2.	$m - n$	6.	$ab + ac$	10.	$2y^3m^2$
3.	Ab	7.	$ax - by$	11.	$4p^2$
4.	$2p$	8.	$(4p^2)$	12.	—

SUBSTITUTION

Substitution means to replace letters with given numbers. This is done after given expression has been expanded.

1.	Given that $a = 5$, $b = 4$ and $c = 0$, find the value of $a+b+c$	6.	Find he value of ———— when $a = 3$ and $m = 6$
----	--	----	--

2.	Given that $x = 2$, $y = -2$ and $z = 3$, Evaluate $4x + 5z$	7.	Given that $a = 3$, $b = 6$ and $c = -2$. Evaluate _____
3.	Given that $a = -2$ and $b = -3$, find the value of $7a - 4b$	8.	If $a = 55$ and $b = 45$, find the value of $(a+b)(a - b)$
4.	Given that $a = 3$, $b = 6$ and $c = -2$. Evaluate _____	9.	If $r = 2$ and $t = -3$, find the value of $r + t^r$
5.	Given that $m = 3k$ and $k = 5$, find the value of $2k+6m$	10.	Given that $a = 2$, $r = 5$ and $x = 3$, evaluate $a^r \div a^x$

SUBSTITUTION INVOLVING FRACTIONS

1.	Given that $a = -\frac{1}{2}$ and $b = \frac{3}{4}$ – find the value of $a + b$	5.	If $a = 0.3$, $b = \frac{1}{10}$ – find the value of $a \div b$
----	---	----	--

2.	If $a = -$ $-$ $-$ find the value of $ac + d$	6.	If $x = -$ $-$ $-$, find the value of $-$
3.	If $a = -$ $-$ $-$ $-$	7.	Given that $p = 0.1$, $q = 0.2$ and $r = 0.3$. Evaluate $pq + r^2$
4.	If $a = 2$, $b = 0.5$ and $c = 4$. What is the value of $-$	8.	Given that $p = -$, $-$ $-$. Find the value of $p^2 + q^2$

SUBSTITUTION INVOLVING COMPLETING TABLES

1. Given that $x = 2y + 1$. Complete the table below

x	1	___	5	___	9
y	___	1	___	3	___

2. Given that $x - 3 = y$. Complete the table below

x	--2	___	0	1	___	2
y	--5	--4	___	___	--2	___

3. Given that $y = x - 2$, complete the table below

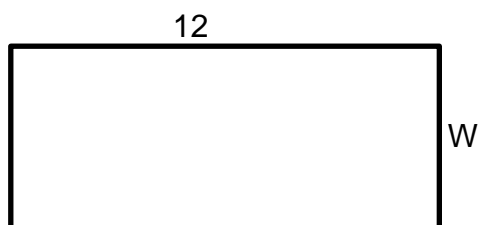
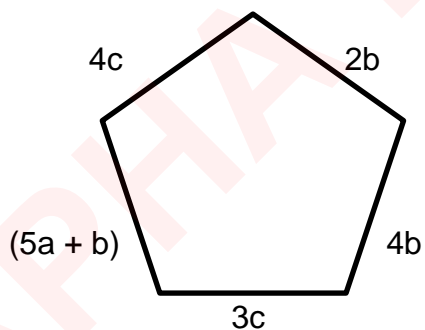
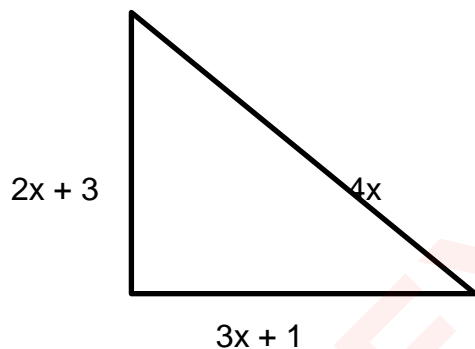
X	--3	--2	--1	0	___	___
y	--2	___	___	___	2	3

COLLECTION OF LIKE AND UNLIKE TERMS

1.	Simplify: $x + y + y + x + x$	4.	Simplify: $2ab + ac + 5ab - 3ac$
2.	Simplify: $6m - 2a$ $4m - 3a$	5.	Simplify: $8m + 9 - 3m + 4$
3.	Simplify: $5ab - 2xy - ab + 7xy$	6.	Simplify: $6x - 5m + 3m - 4x$

FINDING PERIMETER

Find the perimeter of the following figures



COLLECTION OF LIKE TERMS INVOLVING REMOVAL OF BRACKETS

1.	Simplify: $3(x + y)$	6.	Simplify: $2(7 - a) - (8 - a)$
2.	Simplify: $-2(a - b)$	7.	Simplify: $3m - (2 + m)$
3.	Simplify: $(x + 1) + (x + 2)$	8.	Simplify: $(3x + 5) - (x + 1)$
4.	Simplify: $3(x + 2) + (x - 1)$	9.	Simplify: $(8m + 9) - (3m + 4)$
5.	Simplify: $3(x + 1) - 2(x - 1)$	10.	Simplify: $5(t - 3) + (2t - 4)$

ALGEBRAIC EXPRESSIONS WITH REMOVAL OF BRACKETS (COLLECTION OF LIKE TERMS)

1.	Add: $x + 4$ to $x + 1$	6.	Subtract: $2(p + 3q)$ from $6(2p - q)$
----	-------------------------	----	--

2.	Add: $x - 4$ to $3x - 5$	7.	Subtract $3(2w - 4)$ from $2(w + 3)$
3.	Subtract $y + 1$ from $2y + 3$	8.	Find the sum of $4a - 2b$ and $5x - 6$
4.	Subtract: $3p - 1$ from $5p - 3$	9.	Subtract: $2x - 4$ from $5x - 6$
5.	Subtract: $-3p + 6$ from $p + 2$	10.	Subtract: $-2(x + 1)$ from $3x - 3$

ADDITION AND SUBTRACTION OF FRACTIONAL TERMS

1.	Simplify: $\frac{1}{2} - \frac{1}{3}$	5.	Simplify: $3c + \frac{1}{4} - \frac{1}{2}$
2.	Simplify: $\frac{2}{5} + \frac{1}{10}$	6.	Simplify: $\frac{3}{4} - \frac{1}{8}$
3.	Workout: $\frac{1}{2} - \frac{1}{3} - \frac{1}{4}$	7.	Simplify: $\frac{1}{2} + \frac{1}{3} - \frac{1}{4}$

4.	Simplify: $x + - -$	8.	Simplify: $- -$
----	---------------------	----	-----------------

REMOVAL OF BRACKETS INVOLVING FRACTIONS

1.	Simplify: $-$	5.	Simplify: $-$
2.	Simplify: $-$	6.	Simplify: $-$
3.	Simplify: $-$	7.	Simplify: $-$
4.	Simplify: $-$	8.	What is the product of $-$ and

MORE ABOUT REMOVAL OF BRACKETS INVOLVING FRACTIONS

1.	Simplify: $- \quad + -$	5.	Simplify: $- \quad - -$
2.	Simplify: $- \quad - -$	6.	Simplify: $- \quad - -$
3.	Simplify: $- \quad + -$	7.	Simplify: $- \quad - -$
4.	Simplify: $- \quad + -$	8.	Simplify: $- \quad - -$

WORD PROBLEM ON REMOVAL OF BRACKETS WITH FRACTIONS

1.	Simplify a half of $(2x + 4y)$ plus a third of $(6x + 9y)$	5.	Simplify a half the sum of $6x$ and $24y$ minus a third the difference between $27x$ and $9y$
2.	Subtract a half of $(8x - 2y)$ from a third of $(6x - 9y)$	6.	Subtract – from – of
3.	What is the difference between a seventh of $(7ab - 14pq)$ and a fifth of $(10ab + 15pq)$	7.	Add – to –
4.	Simplify a half of $(4a - 6b)$ plus a third of $(6a - 9b)$	8.	Simplify a half of $(4a - 6b)$ plus a third of $(6a - 9b)$

FACTORISING COMPLETELY

When factorizing completely, you need to get the common factor outside the brackets

1.	Factorize completely $4ab + 8b$	5.	Factorize completely $24m - 8mn$
2.	Factorize completely $3x^2 + 15x$	6.	Factorize completely $4ap - 2a$
3.	Factorize completely $6ab + 9ac$	7.	Factorize completely $6xy - 4xy$
4.	Factorize completely $9x - 6y$	8.	Factorize completely $8xy - 2px$

LOCATION: BUZIGA AT KYEYUNE DRIVEWAY

CONTACT: +256778710993