Form 1

Chapter 6 : Linear Equations

TEACHER'S NAME:

NAME:

CLASS:

6.1 LINEAR EQUATIONS IN ONE VARIABLE

NOTES

- A linear equation is an equation that involves a combination of one or more algebraic expressions with the power of the variable being one.
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- Example: (Linear Equation in One Variable, Example: $2x + 3 = 5$)
- (Linear Equations in Two Variables, Example: $x + y = 7$

A Write for the linear equation below either in one variable or two variables.

(Hint: Write No. 1 or 2 in a circle)

$\frac{p}{4} + 1 = 5p$ ( )

$ab = 5$ ( )

$8f + 3 = 15$ ( )

$\frac{2f}{9} + 8 = 2$ ( )

$h - 2k = 8$ ( )

$6m - n = 3$ ( )

$z = 10$ ( )

$\frac{8}{3} - n = 12$ ( )

$3(r - 5) = 7$ ( )

$3(4 + g) = g$ ( )

B Select all linear equations in one variable.

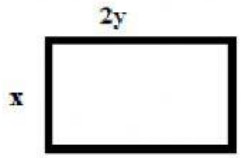
$5p + 7p = 1$	$3r^2 + r = 8$
$\frac{3}{7}n - 1 = m$	$12 - k = \frac{k}{3}$

C Determine whether the following equations are linear equations in one variable or not.

a	c + 23 =2	YES	NO
b	q-8 =31q	YES	NO
c	$x^2y - x = 25$	YES	NO

D Derive one linear equation for each of the following statements or situations.

a) What is the perimeter of the diagram below. (Hint: Write in alphabetical order)



Perimeter, P = _____

b) Solve the equation for the linear equation below.

i) $a + 3 = 10$

$a = 10 - 3$

$a =$ _____

ii) $2a + 3 = 13$

$2a = 13 - 3$

$a = (13 - 3)/2$

$a =$ _____

iii) $2x - 1 = 5$

$x =$ _____

iv) $3c + 2 = 8$

c = _____

v) $5(d - 3) = 2d$

d = _____

vi) $5t + 3 = 2t + 15$

t = _____

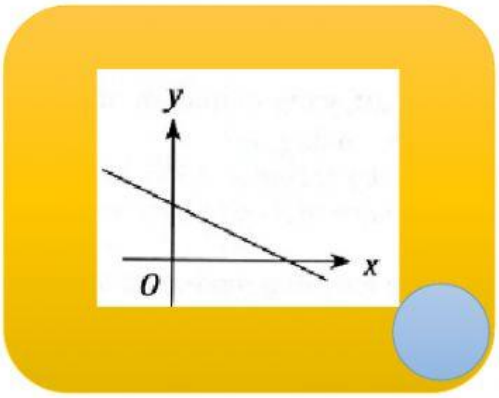
6.2 LINEAR EQUATIONS IN TWO VARIABLES

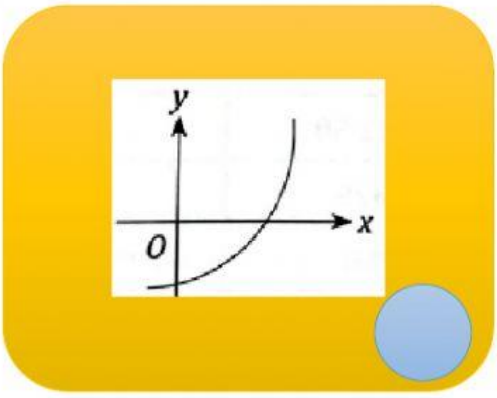
NOTES

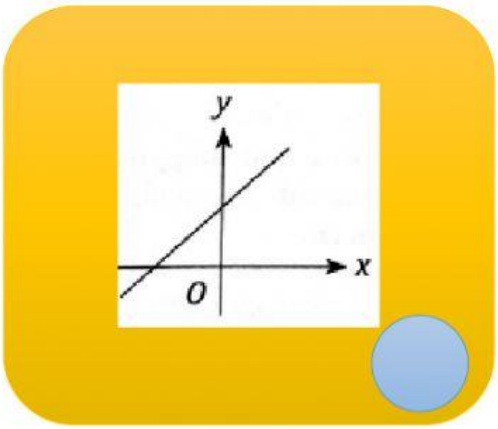
- A linear equation in two variables is a linear equation that has two variables and the power of each variable is one.

  Example : m = 5 + n

E Mark / on the diagram that represents the linear equation in two variables graphically and mark X if it is not.







E Mark / for linear equations in two variables mark X if not.

a	20 - h = 4h	
b	3r +23 =11 s	
c	16f + f = 19	

F Match the linear equations in the two variables based on the situation below.

The number of male and female students in class 5 Murni is 35 people	0.8 x + y = 10
The price of a chicken satay is 80 sen while meat satay is RM 1. Husna pays RM 10 for all the satay she buys.	5 x + 7y = 58
Puan Rohaya spent RM 58 to buy 5 kg of milk melon and 7 kg of starfruit.	x + y = 35

G Solve with a graph representation.

a) The price for 2 mango and 3 guava is RM 8. The price for 3 mango seeds and one guava is RM 5.

i) Construct a simultaneous linear equation in two variables based on the above situation.

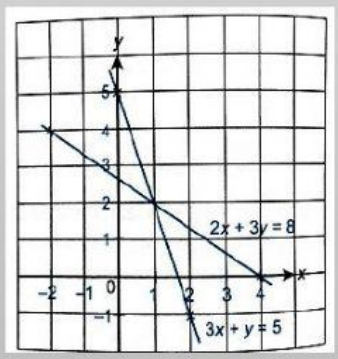
If x is the price of a mango, and y is the price of a guava.

_____ x + _____ y = 8 dan _____ x + _____ y = 5

ii) Represent the following simultaneous linear equations graphically.

x	-2	4
y		

x	0	2
y		



So, the solution to the above simultaneous equation is _____ .

(Write answers in coordinates. Example: (1,0))

H Solve

3 p + q = 11 .....Equation 1
4p -3 q = -7 .....Equation 2

From .....(1)
q = 11 -3p substitute in .....(2)

4p - 3(_____) = -7

p = _____

To find the value of q , substitute in (2)

q = 11 – 3(_____)

q = _____

I Solve. (Drag the appropriate answer choice)

x = 3 , y = 2	x = 9 , y = 6	x = 2 , y = 9

a) $x + y = 15$.
$3x - 2y = 15$

b) $y - 2x = 5$
$5y + 2x = 49$

c) $4x + y = 14$
$2x + 3y = 12$

J Solve. (Choose the correct answer)

a	Solve the equation $13r - \frac{3}{4} = -7r$.	$\frac{1}{65}$	$\frac{4}{35}$	$\frac{3}{80}$	$\frac{2}{75}$
b	Solve the equation $19w - 33 = \frac{2}{3}(18 + 6w)$.	6	5	4	3
c	Solve the equation $\frac{x+17}{2} = 2x - 8$.	10	11	12	13
d	Given 2p + 3q = 8. Find the value of p if q = 2.	1	3	5	7
e	Given 3p -q = 11. Find the value of q if p = 5.	1	2	4	6