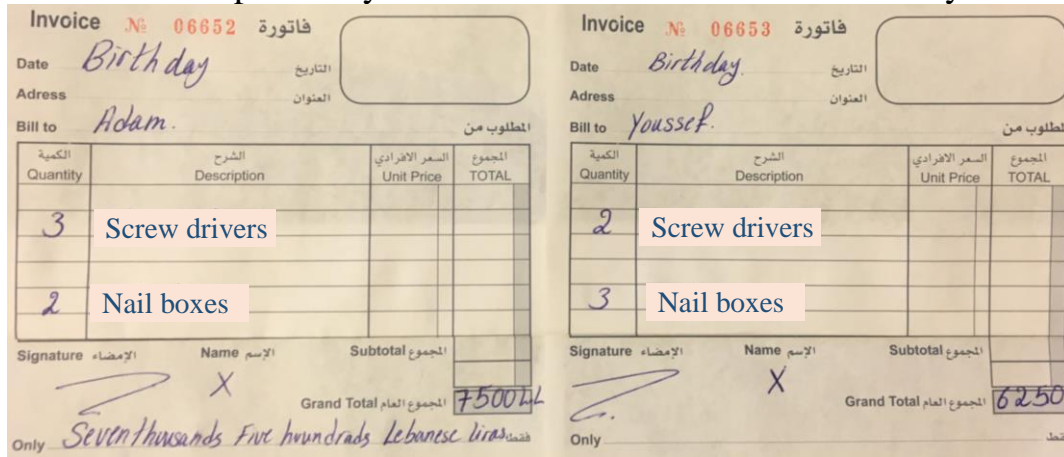


Focusing event:

Youssef and Adam, bought two items and received the below invoices from a tool shop, Sadek wants to go to the same shop and buy one screwdriver and one nail box only.



Help sadek to find the amount of money he has to pay.

.....

Introduction:

I- Answer the following equations:

1. What is a degree of an equation?
2. What are the conditions that must be satisfied to spot the degree of an expression?
3. Determine the degree and the number of unknowns of the following:

Equation	Degree	Number of unknowns
a) $x^2 - 4 = (x - 3)^2$		
b) $2x(x - 3) = (x - 2)^2 - 5$		
c) $2x(x - 3) = (x - 3)^2$		

4. Which of the above equation(s) is (are) linear?

II- Consider the following equations: a) $x + y = 7$ b) $y = 2x + 1$ c) $x^2 - y^2 = 12$

- 1) Which of the above equations is (are) linear? Justify.
- 2) What is the graphical representation of these linear equations?
- 3) List some values of x & y that satisfy equation:

Equation	Values of x	Values of y	(Ordered pair) Couple $(x; y)$
a) $x + y = 7$			
b) $y = 2x + 1$			

4) What does each couple $(x; y)$ represent graphically?

- III-** Consider the statement: Two fifths of a number added to its three quarters gives 230.
- How many unknowns are there in the above statement? Assign a name for it.
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 - Model the above statement into a 1st degree equation.
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 - Solve the formed equation to find this number.
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- IV-** p and c are the respective unit prices of a pen and a copybook. Where the price of a pen and a copy book is 12000L.L .
- Translate the above statement into a mathematical equation.
.....
.....
 - Can you find the exact price of a pen and a copybook?
 - What would you need to find the values of p and c ?
 - Complete the statements:
 - If there is one unknown, then we need.....equation to find the value of
 - If there are two unknowns, then we need.....equations to find the value of

Conclusion: The number of equations should be equivalent to the number of

- V-** Two customers shows their vouchers for purchasing the same two items from a certain grocery shop:

Voucher of 1 st -Customer			
Items	kilograms	Unit price in L.L	Total price
Potato	5		
Grapes	3		
			14000L.L

Voucher of 2 nd -Customer			
Items	kilograms	Unit price in L.L	Total price
Potato	6		
Grapes	2		
			12000L.L

Can you design a plan to complete each of the above two vouchers?

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VI- Consider the following system of equations: $\begin{cases} ax + by = c \\ a'x + b'y = c' \end{cases}$, where $a, b, c, a', b' & c'$ are any real constants.

1- Determine:

- The number of unknowns in the above system:
 - The type of equations that form the above system:
- 2- What do you suggest to solve the above system?

VII- Forms of linear system of equations in two unknowns:

Number	1	2	3
Forms	$\begin{cases} ax + by = c \\ a'x + b'y = c' \end{cases}$	$\begin{cases} y = ax + b \\ y = a'x + b' \end{cases}$	$\begin{cases} ax + by = c \\ y = a'x + b' \end{cases}$

1. How to solve each form?

- Form-1: By
- Form-2: By
- Form-3: By

2. Let the couple (2;3) be the solution for the system: $\begin{cases} x - y = -1 \\ x = \frac{2y}{3} \end{cases}$

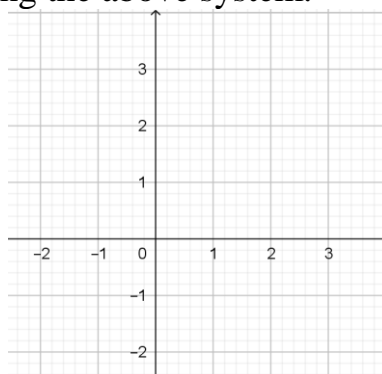
a. Which is the most suitable statement? Justify.

- (2;3) satisfies the first equation only.
 - (2;3) satisfies the second equation only.
 - (2;3) satisfies the both equations at the same time (simultaneously).
-

VIII- Graphical solution of a system of linear equation:

1) Solve the system: $\begin{cases} y = 2x - 1 \\ y = x + 1 \end{cases}$

2) Graph the equations forming the above system.



- Determine graphically the coordinates of point of intersection of the graphs of the given system.
- What do you notice?
- Can a system of equations admit no solution? Explain graphical meaning.