

### Question 1: Solving Linear Equations

Solve the following linear equation, and Show your work:

- $4x - 7 = 2x + 9.$
- $3(x + 1) - 6x = x + 7$
- $-2x + 9 = 2x - 7$
- $4x - 7(2 - x) = 3x + 2$

### Question 2: Solving Inequalities

Solve the following inequalities and graph the solution on a number line

- $5x + 3 < 2.$
- $3(5x - 7) \geq 54$
- $2x + 7 > 1$

### Question 3: Compound Inequalities

Solve the following compound inequalities. Show your solution with steps. And graph the results on the number line .

- $8 \leq 2x + 4 \leq 18$
- $5 \leq x \text{ or } x < -5$



**Question 4: Absolute Value Equations and Inequalities** Solve the following absolute equations:

- $|x - 5| = 7$
- $3|x + 6| + 8 = 5$
- $3|x| - 4 = -2|x| + 6$

A) Solved the following absolute value inequalities:

- $|3x - 6| \geq 9$
- $-2|x| + 5 \leq -15$
- $|y + 4| < 10$

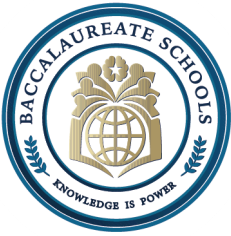
**Question 3: linear equations and functions (4 marks)**

a) find the equations on a line of the following

- $M = 2, (0, 2)$

- $M = \frac{-1}{3}, (3, 2)$

- The line passes two points  $(1, 2), (-1, -2)$



b) In the following linear equations show if they are parallel or perpendicular or neither

- $Y = 3x + 1$

$$Y = -\frac{1}{3}x - 3$$

- $y = 9x - 2$

$$y = 9x + 3$$

- $y = 4x - 9$

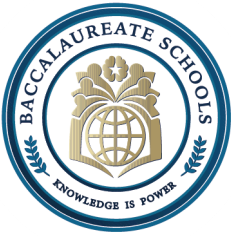
$$y = -4x + 9$$

c) Graph the following linear function

- $F(x) = 3x - 7$

- $F(x) = -3x + 1$

- $F(x) = 2(2x - 2) + 1$



d) Complete the following tables

- $F(x) = 5x + 1$

x	1	2	3	4
F(x)				

- $F(x) = 4x - 2$

x	1	2	3	4
F(x)				