NEW DISCOVERING MATHEMATICS
SECONDARY 2 (GRADE 8)
NON-CALCULATOR PRACTICE

Name: _____ **( ) Class:** _____ **Date:** _____

Chapter 1 – Linear Inequalities (Worksheet B)

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1 Fill in each box with an equality sign.

(a) If $a > b$, then $a - 2 \square b - 2$.

(b) If $c \geq d$, then $-5c \square -5d$.

2 Express the following statements using inequalities.

(a) Five times of x at least 3 more than 5.

(b) A third of y is 3 more than half of y.

3 Solve each inequality and represent the solution on a number line.

(a) $4 + 3x > 13$

(b) $11 \leq 4x - 13$

(c) $6x \geq 4(x - 2) + 4$

(d) $\frac{x}{5} \leq 2 - x$

4 **(a)** Solve the inequality $2 + 8x > 3(2x - 2)$.

(b) Find the smallest integer x that satisfy the inequality in **(a)**.

5 **(a)** Solve the inequality $5 \geq 2(3x + 3) - (x + 4)$.

(b) Find the greatest integer x that satisfy the inequality in **(a)**.

6 Find the greatest rational number that satisfy the inequality $-\frac{3x}{4} + 6.25 \leq -\frac{x}{2} - 4$.

7 Consider the first four terms of the number sequence: 7, 12, 17, 22 …

(a) Express, in terms of n, the nth term of the sequence.

(b) Using your answer from **(a)**, find

(i) the smallest value of n such that the nth term in the sequence is at least 45,

(ii) the greatest value in the sequence that is at most 88.

8 The sum of a set of 3 consecutive positive multiples of 8 is greater than 100.
Find the smallest number in that set.

9 Leo intends to buy a bowl and n cups.
The bowl cost \$17 and each cup cost \$6.

(a) Form an expression, in terms of n, for the total cost of the items.

(b) Leo's budget is \$48. Using your answer from **(a)**, form an inequality to find the maximum number of cups Leo can purchase.

10 A Mathematics competition consist of 30 multiple-choice questions with the following scoring:

Correct answer per attempted question	3 marks
Wrong answer per attempted question	-2 marks
Non-attempted question	0 marks

Mitch attempted only 25 questions. To get a distinction, his score has to be at least 70.
Find the minimum number of correct answers Mitch must obtain to get a distinction.