

Student ID		

Last Name: _____

First Name: _____

Show all your work.
If necessary, use extra sheets.

When appropriate,
BOX your final answer.

M\$5
Homework

5

1. Solve the inequality and graph its solution set on a number line.

$$4 \leq 2x \leq 8$$

2. Solve the inequality and graph its solution set on a number line.

$$5 \leq \frac{x}{3} + 5 < 6$$

3. Solve the inequality and graph its solution set on a number line.

$$(3(x-2) < 9) \vee (3(x-2) > 15)$$

4. Solve the inequality and graph its solution set on a number line.

$$(2x-2 < -2) \vee (3(x+5) > 2x+15)$$

5. Solve the inequality and graph its solution set on a number line.

$$2x-3 < 5 \leq 2-3x$$

6. State whether the given set is closed under (i) addition (ii) subtraction (iii) multiplication or (iv) division.
Justify your response.

a. $\{ \dots, -3\pi, -2\pi, -\pi, 0, \pi, 2\pi, 3\pi, \dots \}$

b. $\{ 1, -1 \}$