Name _____ Student No._____ G___/____ Date: _____Score: _____
Nickname: _____ Worksheet No.: _____

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 4) \cup (-4, \infty)$

Simpliest Form: $(-\infty, \infty)$

2) $[-9, 6] \cup [-5, 3]$

Simpliest Form: $[-9, 6]$

3) $[-6, 5] \cup [-6, 5]$

Simpliest Form: $[-6, 5]$

4) $(-\infty, 6] \cup [-5, \infty)$

Simpliest Form: $(-\infty, \infty)$

5) $(-\infty, 3) \cup [5, 11] \cup [7, \infty)$

Simpliest Form: $(-\infty, 3) \cup [5, \infty)$

6) $(-\infty, 4) \cup [1, 9] \cup [6, \infty)$

Simpliest Form: $(-\infty, \infty)$

Polynomial Inequality

B. Give the solution set to the given polynomial inequality.

1) $-(x-1)(x+1)(x+3) \geq 0$

Solution Set: $(-\infty, -3] \cup [-1, 1]$

2) $(x-1)^2 (x+1)^2 > 0$

Solution Set: $(-\infty, -1) \cup (-1, 1) \cup (1, \infty)$

3) $(x+2)^2(x+3) \geq 0$

Solution Set: $[-3, \infty)$

4) $-(x-1)^3(x+1) < 0$

Solution Set: $(-\infty, -1) \cup (1, \infty)$

5) $(x-1)^2(x+3) < 0$

Solution Set: $(-\infty, -3)$

6) $(x-1)(x+2)(x+3) \leq 0$

Solution Set: $(-\infty, -3] \cup [-2, 1]$

7) $(x-1)^4(x+2) \leq 0$

Solution Set: $(-\infty, -2] \cup \{1\}$

8) $(x-1)(x+1)(x+2)(x+3) \leq 0$

Solution Set: $[-3, -2] \cup [-1, 1]$