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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 3] \cup (-3, \infty)$

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

2) $[-1, 3] \cup [7, 10]$

Simpliest Form: $[-1, 3] \cup [7, 10]$

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

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

4) $[-7, 6] \cup [-6, 4]$

Simpliest Form: $[-7, 6]$

5) $(-\infty, 3) \cup [5, 12] \cup [5, \infty)$

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

6) $(-\infty, 2) \cup [1, 12] \cup [5, \infty)$

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

Polynomial Inequality

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

1) $(x + 1)(x + 2)^2 \geq 0$

Solution Set: $\{-2\} \cup [-1, \infty)$

2) $(x - 1)^2 (x + 1) \geq 0$

Solution Set: $[-1, \infty)$

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

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

4) $(x-1)(x+2)(x+3) \geq 0$

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

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

Solution Set: $\{-2\} \cup [1, \infty)$

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

Solution Set: $[-2, 2]$

7) $(x+2)^2(x+3) \leq 0$

Solution Set: $(-\infty, -3] \cup \{-2\}$

8) $-(x-1)(x+1)(x+2)^2 \geq 0$

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