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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-2, 3) \cup [0, \infty)$

Simpliest Form: $[-2, \infty)$

2) $[-6, 4) \cup [0, \infty)$

Simpliest Form: $[-6, \infty)$

3) $(-\infty, 2) \cup (7, \infty)$

Simpliest Form: $(-\infty, 2) \cup (7, \infty)$

4) $(-\infty, 7] \cup [-8, \infty)$

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

5) $(-\infty, 4) \cup [6, 11] \cup [5, \infty)$

Simpliest Form: $(-\infty, 4) \cup [5, \infty)$

6) $(-\infty, 3] \cup [1, 9) \cup (7, \infty)$

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

Polynomial Inequality

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

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

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

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

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

3) $(x-1)(x+2)^2(x+3) > 0$

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

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

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

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

Solution Set: $(-\infty, 1]$

6) $-(x-2)(x+1)(x+2) < 0$

Solution Set: $(-2, -1) \cup (2, \infty)$

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

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

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

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