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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-6, 0] \cup [-4, 5]$

Simpliest Form: $[-6, 5]$

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

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

3) $(-\infty, 7] \cup (-1, 12]$

Simpliest Form: $(-\infty, 12]$

4) $(-\infty, 2) \cup (6, \infty)$

Simpliest Form: $(-\infty, 2) \cup (6, \infty)$

5) $(-\infty, 3) \cup [3, 10] \cup [7, \infty)$

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

6) $(-\infty, 2) \cup [3, 12] \cup [7, \infty)$

Simpliest Form: $(-\infty, 2) \cup [3, \infty)$

Polynomial Inequality

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

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

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

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

Solution Set: $[-1, 2]$

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

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

4) $(x+2)^2(x+3) < 0$

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

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

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

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

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

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

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

8) $-(x-2)(x-1)(x+3) < 0$

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