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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

Simpliest Form: $(-\infty, 2) \cup (4, \infty)$

2) $(-\infty, 3] \cup (-8, \infty)$

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

3) $[-10, 5] \cup [-6, 3]$

Simpliest Form: $[-10, 5]$

4) $[-9, 7) \cup [-3, 0)$

Simpliest Form: $[-9, 7)$

5) $(-\infty, 2) \cup [3, 10] \cup [6, \infty)$

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

6) $(-\infty, 2) \cup [7, 12] \cup [5, \infty)$

Simpliest Form: $(-\infty, 2) \cup [5, \infty)$

Polynomial Inequality

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

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

Solution Set: $(-1, 1)$

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

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

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

Solution Set: $[-2, 1]$

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

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

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

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

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

Solution Set: $[-2, 2]$

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

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

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

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