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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 4) \cup (5, \infty)$

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

2) $[-9, 5] \cup [-7, 4]$

Simpliest Form: $[-9, 5]$

3) $(-3, 4] \cup (-3, 4]$

Simpliest Form: $(-3, 4]$

4) $(-4, 2] \cup (-7, 3]$

Simpliest Form: $(-7, 3]$

5) $(-\infty, 4] \cup [5, 10) \cup (6, \infty)$

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

6) $(-\infty, 4] \cup [3, 12) \cup (7, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Solution Set: $(1, \infty)$