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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-4, 4] \cup (-8, 2]$

Simpliest Form: $(-8, 4]$

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

Simpliest Form: $(-\infty, 10]$

3) $(-5, 3] \cup (-5, 4]$

Simpliest Form: $(-5, 4]$

4) $(-6, 2] \cup (-5, 1]$

Simpliest Form: $(-6, 2]$

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

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

6) $(-\infty, 4) \cup [5, 9] \cup [6, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8) $-(x+1)^4 > 0$

Solution Set: $\emptyset$