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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-9, 7] \cup [-3, 0]$

Simpliest Form: $[-9, 7]$

2) $(-\infty, 7] \cup (-8, \infty)$

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

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

Simpliest Form: $[-7, 6]$

4) $[-2, 7] \cup [-8, -1]$

Simpliest Form: $[-8, 7]$

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

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

6) $(-\infty, 3] \cup [6, 10) \cup (7, \infty)$

Simpliest Form: $(-\infty, 3] \cup [6, \infty)$

Polynomial Inequality

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

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

Solution Set: $(-1, 1)$

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

Solution Set: $[-2, 1]$

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

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

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

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

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

Solution Set: $\{-1\} \cup [1,\infty)$

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

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

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

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

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

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