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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

Simpliest Form: $[-7, 1)$

2) $(-\infty, 1] \cup (-7, \infty)$

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

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

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

4) $(-\infty, 6] \cup (2, 11]$

Simpliest Form: $(-\infty, 11]$

5) $(-\infty, 4] \cup [3, 11) \cup (6, \infty)$

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

6) $(-\infty, 4) \cup [6, 9] \cup [7, \infty)$

Simpliest Form: $(-\infty, 4) \cup [6, \infty)$

Polynomial Inequality

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

1) $-(x-1)^4 < 0$

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

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

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

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

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

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

Solution Set: $\emptyset$

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

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

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

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

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

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

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

Solution Set: $[-2, \infty)$