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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

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

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

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

3) $[-4, 4) \cup [-1, \infty)$

Simpliest Form: $[-4, \infty)$

4) $(-\infty, 0] \cup (-7, \infty)$

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

5) $(-\infty, 4) \cup [1, 11] \cup [5, \infty)$

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

6) $(-\infty, 3] \cup [1, 11) \cup (5, \infty)$

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

Polynomial Inequality

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

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

Solution Set: $\emptyset$

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

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

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

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

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

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

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

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

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

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

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

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

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

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