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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 6] \cup (-8, \infty)$

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

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

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

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

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

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

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

5) $(-\infty, 3] \cup [1, 11) \cup (7, \infty)$

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

6) $(-\infty, 3] \cup [6, 12) \cup (5, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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