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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-10, 8] \cup [-6, 3]$

Simpliest Form: $[-10, 8]$

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

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

3) $[-7, 2] \cup [-5, 4]$

Simpliest Form: $[-7, 4]$

4) $(-\infty, 2) \cup (3, \infty)$

Simpliest Form: $(-\infty, 2) \cup (3, \infty)$

5) $(-\infty, 3] \cup [4, 9) \cup (5, \infty)$

Simpliest Form: $(-\infty, 3] \cup [4, \infty)$

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

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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