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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-1, 1) \cup [-5, -1)$

Simpliest Form: $[-5, 1)$

2) $(-\infty, 4) \cup (7, \infty)$

Simpliest Form: $(-\infty, 4) \cup (7, \infty)$

3) $(-5, 2] \cup (-5, 4]$

Simpliest Form: $(-5, 4]$

4) $[-1, 2) \cup [-3, \infty)$

Simpliest Form: $[-3, \infty)$

5) $(-\infty, 4) \cup [4, 10] \cup [7, \infty)$

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

6) $(-\infty, 4] \cup [6, 12) \cup (5, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

Solution Set: $(-\infty, 2]$

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

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

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

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

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

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