

Name _____ Student No. _____ G ____/____ Date: _____ Score: _____
Nickname: _____ Worksheet No.: _____

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 3) \cup [-6, 0]$

4) $[-2, 4] \cup [-4, 4]$

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

Simpliest Form: $[-4, 4]$

2) $[-8, 3] \cup [-5, 0]$

5) $(-\infty, 4) \cup [2, 9] \cup [7, \infty)$

Simpliest Form: $[-8, 3]$

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

3) $[-10, 5] \cup [-2, 4]$

6) $(-\infty, 2) \cup [5, 9] \cup [7, \infty)$

Simpliest Form: $[-10, 5]$

Simpliest Form: $(-\infty, 2) \cup [5, \infty)$

Polynomial Inequality

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

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

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

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

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

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

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

$$4) \ (x+1)(x+2)^2 \leq 0$$

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

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

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

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

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

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

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

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

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