

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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

4) $(-\infty, 2] \cup (-8, \infty)$

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

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

2) $[-8, 7] \cup [-7, 4]$

5) $(-\infty, 2) \cup [6, 11] \cup [6, \infty)$

Simpliest Form: $[-8, 7]$

Simpliest Form: $(-\infty, 2) \cup [6, \infty)$

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

6) $(-\infty, 4) \cup [7, 11] \cup [7, \infty)$

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

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

Polynomial Inequality

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

1) $(x + 2)(x + 3)^4 \leq 0$

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

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

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

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

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

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

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

$$5) (x+1)(x+2)^4 < 0$$

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

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

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

$$7) -(x-1)(x+1)^2 < 0$$

Solution Set: $(1, \infty)$

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

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