

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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 4) \cup (6, \infty)$

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

Simpliest Form:

Simpliest Form:

2) $(-\infty, 2) \cup (-5, \infty)$

5) $(-\infty, 2] \cup [1, 12) \cup (5, \infty)$

Simpliest Form:

Simpliest Form:

3) $[-10, 8] \cup [-6, 4]$

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

Simpliest Form:

Simpliest Form:

Polynomial Inequality

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

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

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

Solution Set:

Solution Set:

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

Solution Set:

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

Solution Set:

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

Solution Set:

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

Solution Set:

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

Solution Set:

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

Solution Set:

C. Complete the given table below by converting set representation in different forms.

1	$\{x \in \mathbb{R} \mid x \geq 3 \text{ or } x \leq -3\}$		
2		$[-6, -1] \cup [1, 5)$	
3			
4	$\{x \in \mathbb{R} \mid -1 \leq x \leq 4 \text{ or } x < -4\}$		
5		$(-\infty, -3] \cup (2, \infty)$	
6			
7	$\{x \in \mathbb{R} \mid x \leq -3, x = 0, x > 4\}$		
8		$(-\infty, 0) \cup \{2\} \cup [3, 4)$	
9			
10	$\{x \in \mathbb{R} \mid x < -5, -5 < x < 2, x > 2\}$		