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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

Simpliest Form:

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

Simpliest Form:

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

Simpliest Form:

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

Simpliest Form:

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

Simpliest Form:

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

Simpliest Form:

Polynomial Inequality

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

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

Solution Set:

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

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:

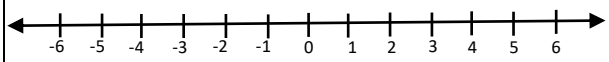
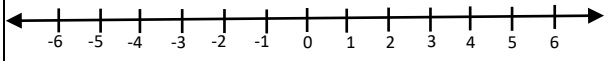
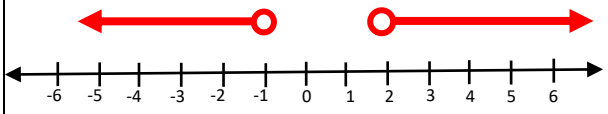
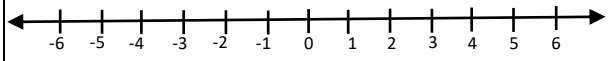
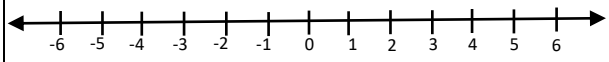
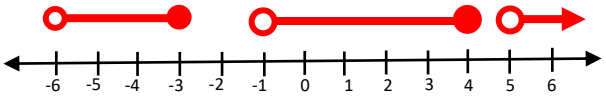
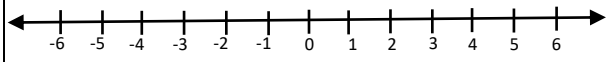
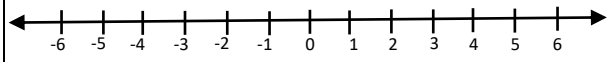
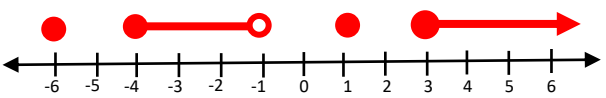
7) $-(x-1)^2(x+1)(x+2)(x+3) \geq 0$

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