

Name _____ Date _____ Period _____

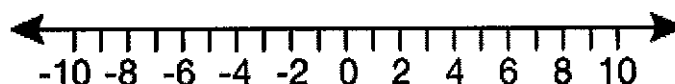
Interval Notation

Please write the following sets in interval notation.

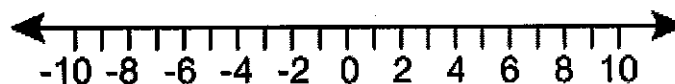
1. The set of all numbers less than or equal to -3 .
2. The set of all real numbers greater than or equal to 4 and less than 8.
3. The set of all real numbers either greater than 6 or between, but not equal to, -3 and -2 .
4. The set of all real numbers between 12 and 8, including 12 but not including 8.

Display the following sets on real number lines.

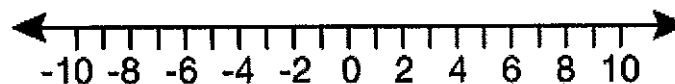
5. $[-3, 1)$



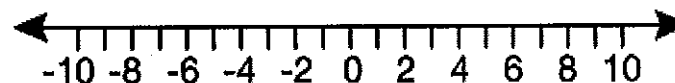
6. $(2, 1)$



7. $(2, 4]$ and $[3, 8)$

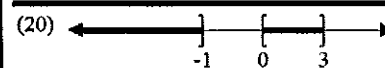
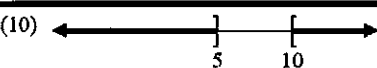
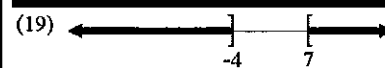
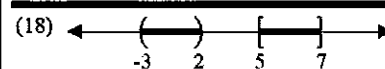
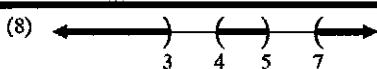
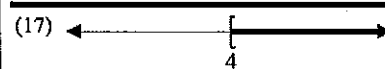
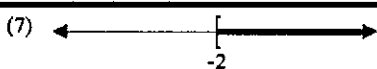
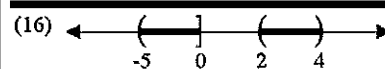
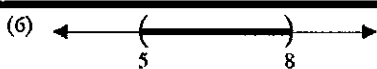
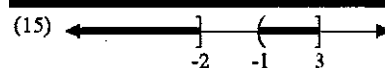
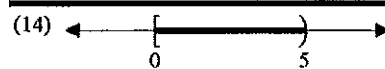
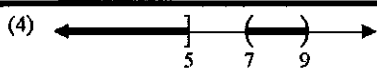
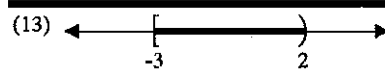
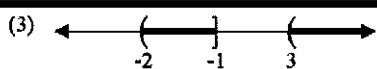
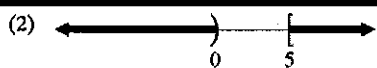
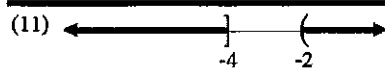
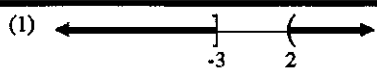


8. $(-1, -3) \cup (1, 2]$



Worksheet #10—Interval Notation

The following are the Number Line Solutions for the Interval Notation and Inequality Forms on the other page. Practice going from each form to any other form. In particular, practice being able to interpret the Number Line Solution back into Inequality Form and Interval Notation.



(1)	(a) $(-\infty, -3] \cup (2, \infty)$	(b) $x < -3$ OR $x > 2$
(2)	(a) $(-\infty, 0) \cup [5, \infty)$	(b) $x < 0$ OR $x \geq 5$
(3)	(a) $(-2, -1] \cup (3, \infty)$	(b) $-2 < x \leq -1$ OR $x > 3$
(4)	(a) $(-\infty, 5] \cup (7, 9)$	(b) $x \leq 5$ OR $7 < x < 9$
(5)	(a) $(-\infty, 4)$	(b) $x < 4$
(6)	(a) $(5, 8)$	(b) $5 < x < 8$
(7)	(a) $[-2, \infty)$	(b) $x \geq -2$
(8)	(a) $(-\infty, 3) \cup (4, 5) \cup (7, \infty)$	(b) $x < 3$ OR $4 < x < 5$ OR $x > 7$
(9)	(a) $(-\infty, -2] \cup [0, 1) \cup (4, \infty)$	(b) $x \leq -2$ OR $0 \leq x < 1$ OR $x > 4$
(10)	(a) $(-\infty, 5] \cup [10, \infty)$	(b) $x \leq 5$ OR $x \geq 10$
(11)	(a) $(-\infty, -4] \cup (-2, \infty)$	(b) $x \leq -4$ OR $x > -2$
(12)	(a) $(5, 7] \cup [9, \infty)$	(b) $5 < x \leq 7$ OR $x \geq 9$
(13)	(a) $[-3, 2)$	(b) $-3 \leq x < 2$
(14)	(a) $[0, 5)$	(b) $0 \leq x < 5$
(15)	(a) $(-\infty, -2] \cup (-1, 3]$	(b) $x \leq -2$ OR $-1 < x \leq 3$
(16)	(a) $(-5, 0] \cup (2, 4)$	(b) $-5 < x \leq 0$ OR $2 < x < 4$
(17)	(a) $[4, \infty)$	(b) $x \geq 4$
(18)	(a) $(-3, 2) \cup [5, 7]$	(b) $-3 < x < 2$ OR $5 \leq x \leq 7$
(19)	(a) $(-\infty, -4] \cup [7, \infty)$	(b) $x \leq -4$ OR $x \geq 7$
(20)	(a) $(-\infty, -1] \cup [0, 3]$	(b) $x \leq -1$ OR $0 \leq x \leq 3$