

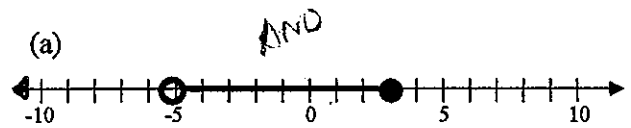
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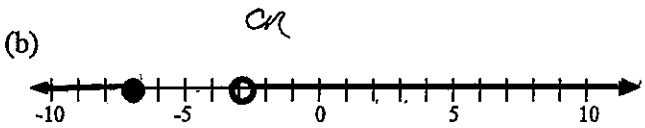
**INTERVAL NOTATION
COMMON CORE ALGEBRA I HOMEWORK**

FLUENCY

1. Write sets using **interval notation** for the sections of the number lines shown graphed below.



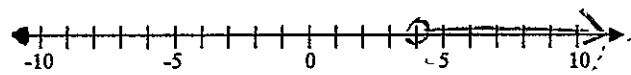
Equivalent Interval Notation: $(-5, 3]$



Equivalent Interval Notation: $(-\infty, -7] \cup (3, \infty)$

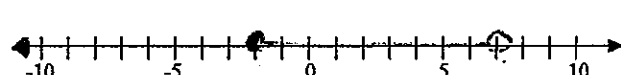
2. For each of the following, graph the portion of the number line described by the inequality and then write the equivalent using **interval notation**.

(a) $x > 4$



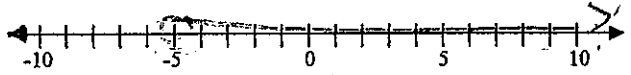
Equivalent Interval Notation: $(4, \infty)$

(b) $-2 \leq x < 7$



Equivalent Interval Notation: $[-2, 7)$

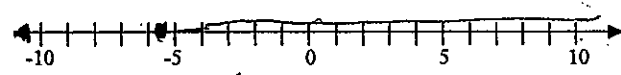
(c) $-3x + 2 < 17$



$$\begin{aligned}
 -3x + 2 &< 17 \\
 -2 &-2 \\
 \hline
 -3x &< 15 \\
 \star (-3) & \quad (-3) \\
 \hline
 x &> 5
 \end{aligned}$$

Equivalent Interval Notation: $(-5, \infty)$

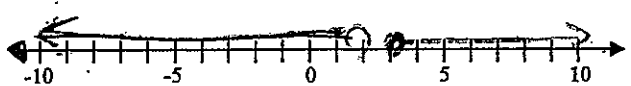
(d) $2x + 5 \geq -6$



$$\begin{aligned}
 2x + 5 &\geq -6 \\
 -5 &-5 \\
 \hline
 2x &\geq -11 \\
 \frac{2x}{2} &\geq \frac{-11}{2} \\
 x &\geq -5.5
 \end{aligned}$$

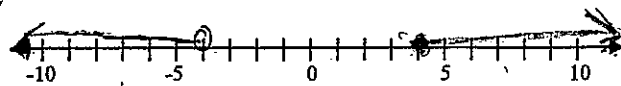
Equivalent Interval Notation: $[-5.5, \infty)$

(e) $x \geq 3$ or $x < 2$



Equivalent Interval Notation: $(-\infty, 2) \cup [3, \infty)$

(f) $x \geq 4$ or $x < -4$

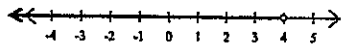
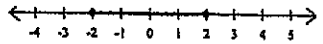
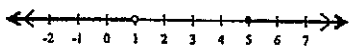
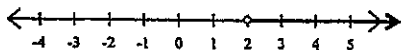
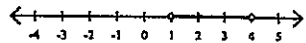
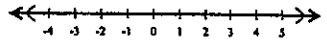
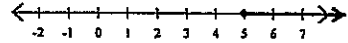
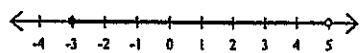
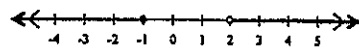
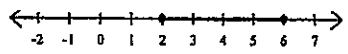
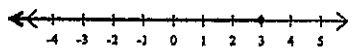


Equivalent Interval Notation: $(-\infty, -4) \cup [4, \infty)$

Name: Key

Date: _____

Inequalities, Interval Notation, Set Builder Notation Matching

	Inequality	Interval Notation	Graph
1)	$-3 \leq x < 5$ <u>E</u> <u>T</u>	A) $(-\infty, 4)$	M) 
2)	$x > 2$ <u>J</u> <u>P</u>	B) $[5, \infty)$	N) 
3)	$x \leq 3$ <u>G</u> <u>W</u>	C) $(-5, -1)$	O) 
4)	$x < 4$ <u>A</u> <u>M</u>	D) $(-\infty, -1] \cup (2, \infty)$	P) 
5)	$2 \leq x \leq 6$ <u>I</u> <u>V</u>	E) $[-3, 5)$	Q) 
6)	$x \geq 5$ <u>B</u> <u>S</u>	F) $[-2, 2]$	R) 
7)	$x < 1 \text{ or } x \geq 5$ <u>K</u> <u>O</u>	G) $(-\infty, 3]$	S) 
8)	$-5 < x < -1$ <u>C</u> <u>Z</u>	H) $(1, 4)$	T) 
9)	x is any real # <u>L</u> <u>R</u>	I) $[2, 6]$	U) 
10)	$x \leq -1 \text{ or } x > 2$ <u>D</u> <u>U</u>	J) $(2, \infty)$	V) 
11)	$1 < x < 4$ <u>H</u> <u>Q</u>	K) $(-\infty, 1) \cup [5, \infty)$	W) 
12)	$-2 \leq x \leq 2$ <u>F</u> <u>N</u>	L) $(-\infty, \infty)$	Z) 