Name Key
8A; Algebra 1

Date_____
Period____

Homework

Solve and graph the following compound inequalities And set builder & interval notation

1) $-5 < 3p + 7 \leq 22$

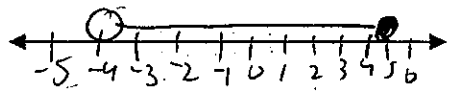
$-7 \quad -7 \quad -7$

$\frac{-12}{3} < \frac{3}{3}p \leq \frac{15}{3}$

$\boxed{-4 < p \leq 5}$

SB: $\{p \in \mathbb{R} \mid -4 < p \leq 5\}$

IN: $(-4, 5]$



2) $-3 \leq 7c + 4 < 18$

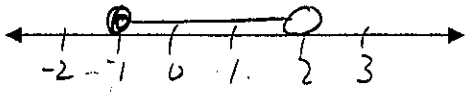
$-4 \quad -4 \quad -4$

$\frac{-7}{7} \leq \frac{7}{7}c < \frac{14}{7}$

$\boxed{-1 \leq c < 2}$

SB: $\{c \in \mathbb{R} \mid -1 \leq c < 2\}$

IN: $[-1, 2)$



3) $f - 6 < 5$ and $f - 4 \geq 2$

$+6 \quad +6 \qquad +4 \quad +4$

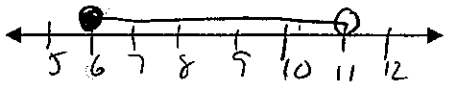
$f < 11$ and $f \geq 6$

$\boxed{6 \leq f < 11}$

SB: $\{f \in \mathbb{R} \mid 6 \leq f < 11\}$

IN: $[6, 11)$

"And" must be written as a single inequality



4) $5h - 4 \geq 6 \cap 7h + 11 < 32$ and

$+4 \quad +4 \qquad -11 \quad -11$

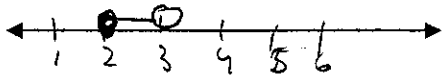
$\frac{5h}{5} \geq \frac{10}{5} \qquad \frac{7h}{7} < \frac{21}{7}$

$h \geq 2 \cap h < 3$

$\boxed{2 \leq h < 3}$

SB: $\{h \in \mathbb{R} \mid 2 \leq h < 3\}$

IN: $[2, 3)$



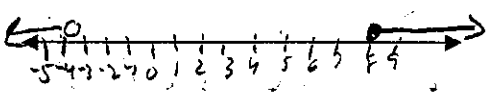
5) $y - 1 \geq 7$ or $y + 3 < -1$

$+1 \quad +1 \qquad -3 \quad -3$

$\boxed{y \geq 8 \text{ or } y < -4}$

SB: $\{y \in \mathbb{R} \mid y \geq 8 \text{ or } y < -4\}$

IN: $(-\infty, -4) \cup [8, \infty)$



6) $22 \geq 4m - 2$ OR $\cup$ $5 - 3m \leq -13$

$+2 \quad +2 \qquad -5 \quad -5$

$\frac{24}{4} \geq \frac{4m}{4} \qquad -3m \leq -18$

$6 \geq m \qquad \frac{-3}{-3} \quad \frac{-3}{-3}$

$m \leq 6 \cup m \geq 6$

All real #s!

* Switch direction of the symbol when dividing by a neg #

SB: $\{m \in \mathbb{R} \mid m \in \mathbb{R}\}$

IN: $(-\infty, \infty)$