No.: Intensive mathematic Date:

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chapter 5 inequalities

5.1 self exercise

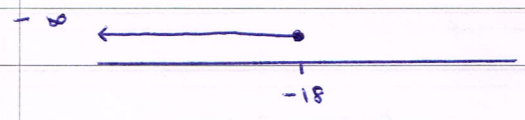
solve the following inequalities. then graph the answer in interval notation.

2) $2q - 4 + 5q \leq -130$

$7q - 4 + 4 \leq -130 + 4$

$\frac{7q}{7} \leq \frac{-126}{7}$

$q \leq -18$



$(-\infty, -18]$

in interval notation from : $(-\infty, -18]$

Checked 3/9/18.

3) $2(6 - 4a) \geq 9a - 56$

$12 - 8a \geq 9a - 56$

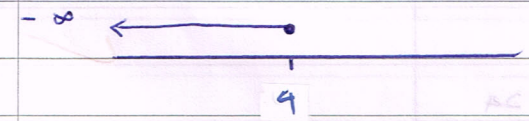
$12 - 8a - 9a \geq 9a - 9a - 56$

$12 - 17a \geq -56$

$12 - 12 - 17a \geq -56 - 12$

$\frac{-17a}{-17} \geq \frac{-68}{-17}$

$a \leq 4$



$(-\infty, 4]$

in interval notation from : $(-\infty, 4]$

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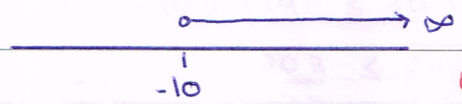
4) $6h + 3h > -90$

$\frac{9h}{9} > \frac{-90}{9}$

$h > -10$ ✓



$(-10, \infty)$ ✓

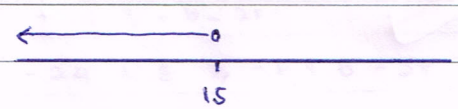
In interval notation from : $(-10, \infty)$ ✓

5) $2d - 11 + 5d < 94$

$7d - 11 + 11 < 94 + 11$

$\frac{7d}{7} < \frac{105}{7}$

$d < 15$ ✓



$(-\infty, 15)$ ✓

In interval notation from $(-\infty, 15)$ ✓

6) $4(6 - 5b) - 3b > 10b - 240$

$24 - 20b - 3b > 10b - 240$

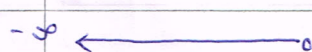
$24 - 20b - 3b - 10b > 10b - 10b - 240$

$24 - 33b > -240$

$24 - 24 - 33b > -240 - 24$

$\frac{-33b}{-33} > \frac{-264}{-33}$ flip the sign.

$b < 8$ ✓



$(-\infty, 8)$

In interval notation from $(-\infty, 8)$ ✓

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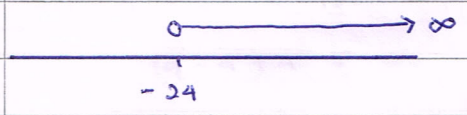
7) $-4v < -3v + 5v$

$\frac{-4v}{2} < \frac{2v}{2}$

$-2v < v$

$v > -24$



$(-24, \infty)$

in interval notation from : $(-24, -\infty)$

8) $8k - 76 \leq 4(6 - 3k)$

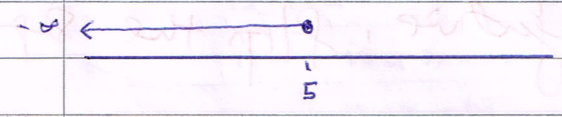
$8k - 76 \leq 24 - 12k$

$8k + 12k - 76 \leq 24 - 12k + 12k$

$20k - 76 + 76 \leq 24 + 76$

$\frac{20k}{20} \leq \frac{100}{20}$

$k \leq 5$



$(-\infty, 5]$

in interval notation from : $(-\infty, 5]$

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9) $4z - 190 \leq 6(5 - 2z) - 4z$

$4z - 190 \leq 30 - 12z - 4z$

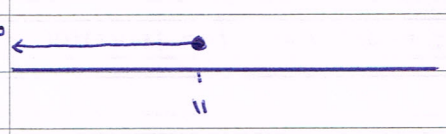
$4z - 190 \leq 30 - 16z$

$4z + 16z - 190 \leq 30 - 16z + 16z$

$20z - 190 + 190 \leq 30 + 190$

$\frac{20z}{20} \leq \frac{220}{20}$

$z \leq 11$



$(-\infty, 11]$

In interval notation from $(-\infty, 11]$

10) $-24 \geq -5r - 6 + 3r$

$-24 \geq -6 - 2r$

$-24 + 6 \geq -6 + 6 - 2r$

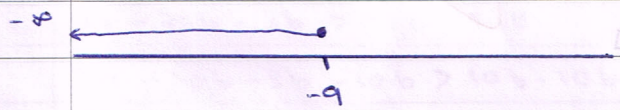
$-18 \geq -2r$

$\frac{-2r}{-2} \geq \frac{-18}{-2}$

~~$r \leq 9$~~

$r \geq -9$

once you divide by negative, flip the sign



$(-\infty, -9]$

In interval notation from $(-\infty, -9]$