Name Key ID: 1

Chpt 1 Review for Quiz 1

Date _____ Period ____

List all the sets of numbers that the following belong to.

1) A. 2 $\mathbb{N}, \mathbb{W}, \mathbb{Z}, \mathbb{Q}, \mathbb{R}$

B. -6 $\mathbb{Z}, \mathbb{Q}, \mathbb{R}$

C. 0.14 $\mathbb{Q}, \mathbb{R}$

D. π irrational, $\mathbb{R}$

E. $\sqrt{9}$ $\mathbb{N}, \mathbb{W}, \mathbb{Z}, \mathbb{Q}, \mathbb{R}$

(Note: you don't need symbols memorized for tomorrow- You can write these sets in words.)

True or False. For all false statements, explain why the answer is false using a counterexample.

2) The opposite of every whole number is a whole number.

False. 1 is a whole #. It's opposite, -1, is not a whole #.

3) There are no rational numbers that are also integers.

False. $\frac{2}{1}$ is a rational #. 2 is also an integer.

4) The product of two natural numbers is always a natural number.

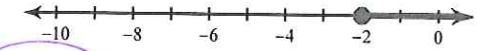
TRUE

Solve each inequality and graph its solution.

5) $-160 > 6(8k - 2) - 4$

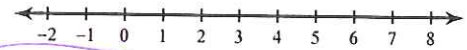
$k < -3$

6) $-120 \leq 8(4k - 7)$



$k \geq -2$

7) $-23 - 8a \geq -8(a + 2)$



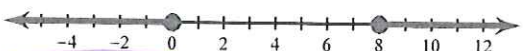
No solution.

8) $26 + 8n \geq 2(1 + 8n)$

$n \leq 3$

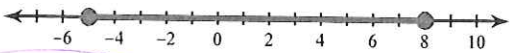
Solve each compound inequality and graph its solution.

9) $2 - x \leq -6$ or $-7 - x \geq -7$



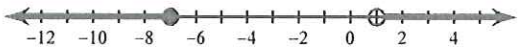
$x \geq 8$ or $x \leq 0$

10) $-66 \leq -9x + 6 \leq 51$



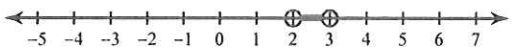
$-5 \leq x \leq 8$

11) $6 - 2r < 4$ or $3 + 5r \leq -32$



$r > 1$ or $r \leq -7$

12) $-31 < -7 - 8n < -23$



$2 < n < 3$

Solve each equation.

13) $|2a| = 20$

$\{10, -10\}$

14) $|2 - 8k| - 10 = 0$ $\left\{-1, \frac{3}{2}\right\}$

15) $5|-5x - 1| = 120$

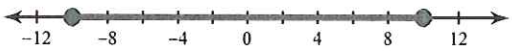
$\left\{-5, \frac{23}{5}\right\}$

16) $9\left|\frac{v}{5}\right| + 7 = 25$

$\{10, -10\}$

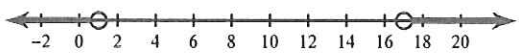
Solve each inequality and graph its solution.

17) $|-9n| + 5 \leq 95$



$-10 \leq n \leq 10$

18) $|-9 + m| - 8 > 0$



$m > 17$ or $m < 1$

19) $|7n - 6| < 36$

$-\frac{30}{7} < n < 6$

20) $8|n - 5| + 5 < 117$

$-9 < n < 19$

Simplify.

21) $\frac{2}{3} + \frac{7}{8}$

$\frac{37}{24}$

22) $\frac{\frac{3}{4}}{\frac{5}{7}}$

$\frac{3}{4} \cdot \frac{7}{5} = \frac{21}{20}$