Pre AP Algebra 1 **Name:** Key

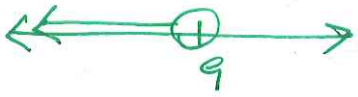
Quiz 5-1 through 5-5 **Date:** _____ **Pd:** _____

1. Solve AND graph the solution set for each inequality.

a. $\frac{4}{3}x + 5 < 17$

$\frac{3}{4}\left(\frac{4}{3}x\right) < (12)\frac{3}{4}$

$x < 9$



b. $-3(3 + 2y) - 1 \leq 2(1 - 4y)$

$-9 - 6y - 1 \leq 2 - 8y$

$-10 - 6y \leq 2 - 8y$

$+8y \quad +8y$

$-10 + 2y \leq 2$

$2y \leq 12$

$y \leq 6$

2. Solve AND graph the solution set for each inequality.

a. $10 - 3x > -8$

$-3x > -18$

$x < 6$

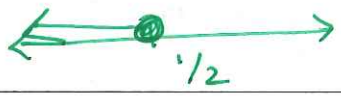
b. $\frac{2}{3}u + \frac{2}{6} \geq \frac{4}{3}u$

$3\left[\frac{2}{3}u + \frac{1}{3} \geq \frac{4}{3}u\right]$

$2u + 1 \geq 4u$

$1 \geq 2u$

$u \leq 1/2$



3. Two students have two different answers for the same homework problem. Which student is incorrect? Explain the error.

Student A
(1) $9m \geq -27$
(2) $\frac{9m}{9} \geq \frac{-27}{9}$
(3) $m \leq -3$

Student B
(1) $9m \geq -27$
(2) $\frac{9m}{9} \geq \frac{-27}{9}$
(3) $m \geq -3$

Student B. No inequality flip b/c divided by positive #.

4. What is the least whole number that is a solution of $4r - 4.9 > 14.95$?

5

$\frac{4r}{4} > \frac{19.8}{4}$ $+4.9$

5. Roger is having a picnic for 78 guests. He plans to serve each guest at most two hot dogs. If each package, p, contains eight hot dogs, write and solve the inequality that could be used to determine how many packages of hot dogs Roger will need to buy and solve.

$8p \geq 78(2)$

$\frac{8p}{8} \geq \frac{156}{8}$

$p \geq 19.5$

20 pkgs

6. Mrs. Smith wrote "Six less than 3 times a number is greater than fifteen" on the board. If x represents the number, write an inequality that is a correct translation of this and solve.

$3x - 6 > 15$

$3x > 21$

$x > 7$

7. Peter begins his kindergarten year able to spell 10 words. He is going to learn to spell 2 new words per day. Write an inequality that can be used to determine how many days, d, it takes Peter to be able to spell at least 75 words. Use this inequality to determine the minimum number of whole days it will take for him to be able to spell at least 75 words.

$10 + 2d \geq 75$

$2d \geq 65$

$d \geq 32.5$

33 days

8. Given that a and b are real numbers such that $a > b$, describe the real numbers c, for which $ac < bc$ is true.

$c < 0$

9. Solve and graph the solution set of the compound inequality: $-5 < 2x - 5 \leq 3$.

$-5 < 2x - 5$ and $2x - 5 \leq 3$

$0 < 2x$ $\quad$ $2x \leq 8$

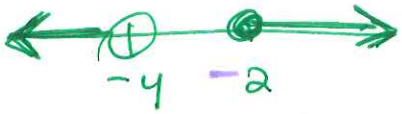
$x > 0$ and $x \leq 4$

10. Solve and graph the solution set of the compound inequality: $-5x - 1 \leq 9$ *or* $-5x - 1 > 19$

$-5x - 1 \leq 9$ $\quad$ $-5x - 1 > 19$

$-5x \leq 10$ $\quad$ $-5x > 20$

$x \geq 2$ or $x < -4$



Bonus: Solve and Graph the solution set of the absolute value inequality: $\left|\frac{1}{2}x - 3\right| > 1$

$\frac{1}{2}x - 3 > 1$ or $\frac{1}{2}x - 3 < -1$

$\frac{1}{2}x > 4$ $\frac{1}{2}x < 2$

$x > 8$ or $x < 4$