Algebra 1 Name: _____ Period_____

Mrs. Moore/Mrs.Hinds Review 2.5-2.6

SHOW ALL WORK FOR FULL CREDIT

If the final answer is no solution or all real numbers be sure to write that!

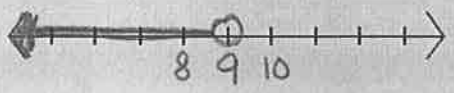
Solve each inequality and graph the solutions.

1. $3x < 36 - x$

$+x \quad +x$

$\frac{4x}{4} < \frac{36}{4}$

$x < 9$



2. $-2(3r-5) < 2(3r+2)$

$-6r + 10 < 6r + 4$

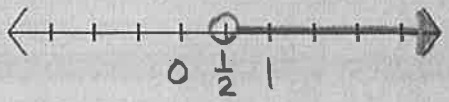
$-6r \quad -6r$

$-12r + 10 < 4$

$-10 \quad -10$

$\frac{-12r}{-12} < \frac{-6}{-12}$

$r > \frac{1}{2}$



3. $2b + 2(3-3b) > b - 9$

$2b + 6 - 6b > b - 9$

$-4b + 6 > b - 9$

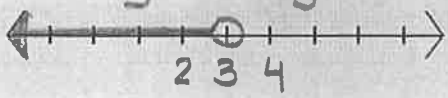
$-b \quad -b$

$-5b + 6 > -9$

$-6 \quad -6$

$\frac{-5b}{-5} > \frac{-15}{-5}$

$b < 3$



4. $1 \le -2w - 5 \le 111$

$+5 \quad +5 \quad +5$

$\frac{6}{-2} \le \frac{-2w}{-2} \le \frac{116}{-2}$

$-3 \ge w \ge -58$

$-58 \le w \le -3$

5. $-2(4-x) \le 2(x-2)$

$-8 + 2x \le 2x - 4$

$-2x \quad -2x$

$-8 \le -4$ ← true

All real #s

IR

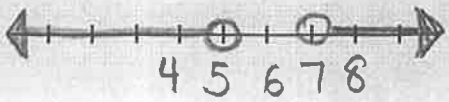
6. $x - 2 > 5$ OR $3 - 2x > -7$

$+2 \quad +2 \quad -3 \quad -3$

$x > 7$ or $\frac{-2x}{-2} > \frac{-10}{-2}$

$x < 5$

$x > 7$ or $x < 5$



Algebra 1
Mrs. Caruso

Name: _____ Period_____

Quiz 2.1-2.3 (*28 pts*)

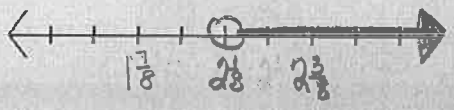
7. $12\left(\frac{2}{3}x-\frac{1}{6}\right)>\left(\frac{5}{4}x\right)12$

$8x-2>15$

$+2\quad+2$

$\frac{8x}{8}>\frac{17}{8}$

$x>\frac{17}{8}$ or $2\frac{1}{8}$



8. $2-(3r+1)>2(r+6)+1$

$2-3r-1>2r+12+1$

$1-3r>2r+13$

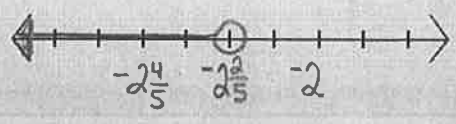
$-2r\quad-2r$

$1-5r>13$

$-1\quad-1$

$\frac{-5r}{-5}>\frac{12}{-5}$

$r<-\frac{12}{5}$ or $-2\frac{2}{5}$



9. $3y-6\geq 2(y+7)+y$

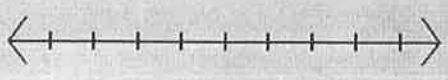
$3y-6\geq 2y+14+y$

$3y-6\geq 3y+14$

$-3y\quad-3y$

$-6\geq 14$ ← false

No solution



10. $8\left(\frac{1}{4}n+\frac{5}{8}\right)<\left(\frac{7}{2}n+1\right)8$

$2n+5<28n+8$

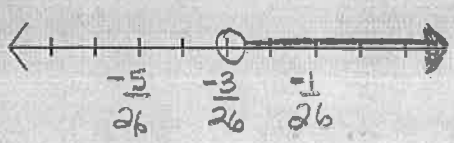
$-28n\quad-28n$

$-26n+5<8$

$-5\quad-5$

$\frac{-26n}{-26}<\frac{3}{-26}$

$n>\frac{-3}{26}$



11. $-2\leq\frac{n+2}{3}\leq 4$ ·3

$-6\leq n+2\leq 12$

$-2\quad-2\quad-2$

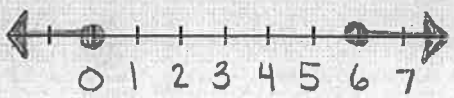
$-8\leq n\leq 10$

12. $3a-5\leq -2$ OR $3a-5\geq 13$

$+5\ +5$ $\qquad$ $+5\ +5$

$\frac{3a}{3}\leq\frac{3}{3}$ $\qquad$ $\frac{3a}{3}\geq\frac{18}{3}$

$a\leq 1$ OR $a\geq 6$



Algebra 1
Mrs. Moore/Mrs.Hinds

Name: _____ Period_____
Review 2.5-2.6

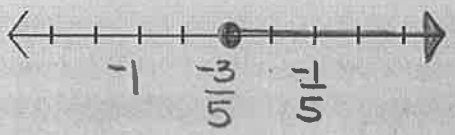
13. $-2s + 3 \geq -7s$

$+2s \quad +2s$

$\frac{3}{5} \geq \frac{-5s}{-5}$

$-\frac{3}{5} \leq s$

$s \geq -\frac{3}{5}$



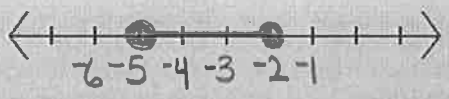
14. $3 \leq -2x - 1 \leq 9$

$+1 \quad +1 \quad +1$

$\frac{4}{-2} \leq \frac{-2x}{-2} \leq \frac{10}{-2}$

$-2 \geq x \geq -5$

$-5 \leq x \leq -2$



Solve each inequality. YOU DO NOT NEED TO GRAPH

15. $2x + 1 < 8x - 2$

$-8x \quad -8x$

$-6x + 1 < -2$

$-1 \quad -1$

$\frac{-6x}{-6} < \frac{-3}{-6}$

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

16. $4(3p + 5) \geq -2p$

$12p + 20 \geq -2p$

$+2p \quad +2p$

$14p + 20 \geq 0$

$-20 \quad -20$

$\frac{14p}{14} \geq \frac{-20}{14}$

$p \geq \frac{10}{7}$

17. $-12 \leq \frac{n+2}{3} \leq 4$

$\cdot 3 \quad \cdot 3 \quad \cdot 3$

$-36 \leq n + 2 \leq 12$

$-2 \quad -2 \quad -2$

$-38 \leq n \leq 10$

18. $3a - 5 \leq -2$ OR $3a - 5 \geq 13$

$+5 \quad +5 \qquad +5 \quad +5$

$\frac{3a}{3} \leq \frac{3}{3} \qquad \frac{3a}{3} \geq \frac{18}{3}$

$a \leq 1$ OR $a \geq 6$

Algebra 1
Mrs. Moore/Mrs.Hinds

Name: _____ Period_____
Quiz 2.5-2.6

19. $2a + 10 \leq 2(-2a + 3) + 6a$

$2a+10 \leq -4a+6+6a$

$2a+10 \leq 2a+6$

$-2a \quad -2a$

$10 \leq 6$ ← false

No solution

20. $6(k-5) > 3k - 26$

$6k-30 > 3k-26$

$-3k \quad -3k$

$3k-30 > -26$

$+30 \quad +30$

$\frac{3k}{3} > \frac{4}{3}$

$k > \frac{4}{3}$

21. $5(n-2) < 4(2n+6) + 2$

$5n-10 < 8n+24+2$

$5n-10 < 8n+26$

$-8n \quad -8n$

$-3n-10 < 26$

$+10 \quad +10$

$\frac{-3n}{-3} < \frac{36}{-3}$

$n > -12$

22. $3\left(\frac{2}{3}y+6\right) < \left(\frac{2}{3}y-6\right)3$

$2y+18 < 2y-18$

$-2y \quad -2y$

$18 < -18$ ← false

No solution

23. $5b + 20 > -2 + 3b$

$-3b \quad -3b$

$2b+20 > -2$

$-20 \quad -20$

$\frac{2b}{2} > \frac{-22}{2}$

$b > -11$

24. $-z + 20 > z + 20$

$-z \quad -z$

$-2z+20 > 20$

$-20 \quad -20$

$\frac{-2z}{-2} > \frac{0}{-2}$

$z < 0$

Algebra 1
Mrs. Moore/Mrs.Hinds

Name: _____ Period_____
Quiz 2.5-2.6

32. The Home Cleaning Company charges $312 to power-wash the siding of a house plus $12 for each window. Power Clean charges $36 per window, and the price includes power-washing the siding. How many windows must a house have in order to make the total cost from the Home Cleaning Company less expensive then Power Clean?

Home Cleaning Co < Power Clean

let w = # windows

$312 + 12w < 36w$
$-12w \quad -12w$

$\frac{312}{24} < \frac{24w}{24}$

$13 < w$

$w > 13$

Home Cleaning is the better deal when there is more than 13 windows.

33. The school band will sell pizzas to raise money for new uniforms. The supplier charges $100 plus $4 per pizza. If the band members sell the pizzas for $7 each, how many pizzas will they have to sell to make it a profit?

Supplier < band

let p = # pizzas

$100 + 4p < 7p$
$-4p \quad -4p$

$\frac{100}{3} < \frac{3p}{3}$

$33.\overline{3} < p$

$p > 33.\overline{3}$

The band needs to sell 34 or more pizzas to make a profit (*more than 33)

34. A typical acoustic guitar has a range of three octaves. When the guitar is tuned to concert pitch, the range of frequencies for those three octaves is between 82.4 Hz and 659.2 Hz inclusive. Write a compound inequality to show the frequencies that are within the range of a typical acoustic guitar.

$82.4 \leq x \leq 659.2$