Name Key Date _____ Pd _____

2.8 Solving Linear Inequalities CYU DAY TWO

☑ Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

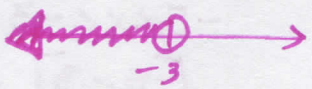
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Solving Inequalities	1 – 10	11 – 16, 25 – 32	17 – 20, 33, 34
Graphing on a number line	1 – 10, 21 - 24	11 – 16, 25 – 32	17 – 20
Writing inequality solutions in interval notation	1 – 10, 21 - 24	11 – 16, 25 - 32	17 – 20, 33, 34
Translating words to inequalities			33, 34

Solve the following inequalities. Graph each solution set and write it in interval notation.

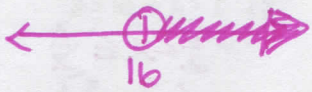
1. $-2x \leq -40$

$[20, \infty)$ 

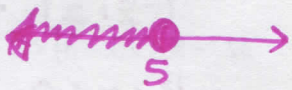
2. $-7x > 21$

$(-\infty, -3)$ 

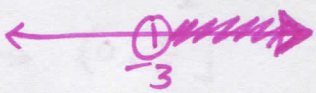
3. $-9 + x > 7$

$(16, \infty)$ 

4. $y - 4 \leq 1$

$(-\infty, 5]$ 

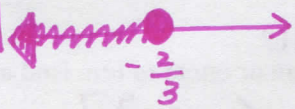
5. $3x - 7 < 6x + 2$

$(-3, \infty)$ 

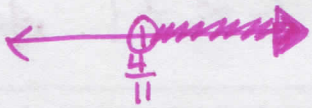
6. $2x - 1 \geq 4x - 5$

$(-\infty, 2]$ 

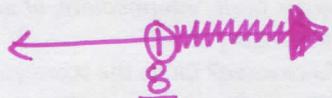
7. $5x - 7x \geq x + 2$

$(-\infty, -\frac{2}{3}]$ 

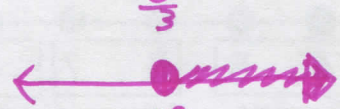
8. $4 - x < 8x + 2x$

$(\frac{4}{11}, \infty)$ 

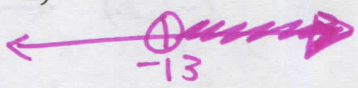
9. $\frac{3}{4}x > 2$

$(\frac{8}{3}, \infty)$ 

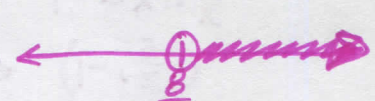
10. $\frac{5}{6}x \geq -8$

$[-\frac{48}{5}, \infty)$ 

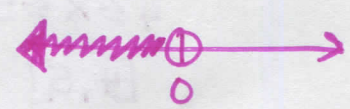
11. $3(x-5) < 2(2x-1)$

$(-13, \infty)$ 

12. $5(x+4) < 4(2x+3)$

$(\frac{8}{3}, \infty)$ 

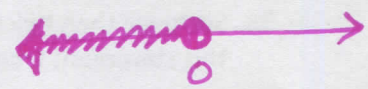
13. $4(2x+1) < 4$

$(-\infty, 0)$ 

14. $6(2-x) \geq 12$

$(-\infty, 0]$ 

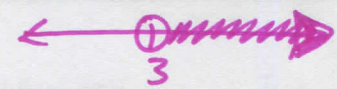
15. $-5x + 4 \geq -4(x-1)$

$(-\infty, 0]$ 

16. $-6x + 2 < -3(x+4)$

$(\frac{14}{3}, \infty)$ 

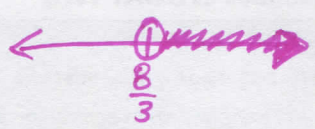
17. $-2(x-4) - 3x < -(4x+1) + 2x$

$(3, \infty)$ 

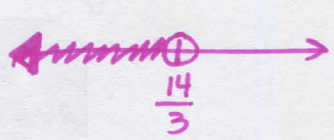
18. $-5(1-x) + x \leq -(6-2x) + 6$

$(-\infty, \frac{5}{4}]$ 

19. $\frac{1}{4}(x+4) < \frac{1}{5}(2x+3)$

$(\frac{8}{3}, \infty)$ 

20. $\frac{1}{3}(3x-1) < \frac{1}{2}(x+4)$

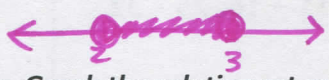
$(-\infty, \frac{14}{3})$ 

Graph each inequality. Then write the solutions in interval notation.

21. $-1 < x < 3$

$(-1,3)$ 

22. $2 \leq y \leq 3$

$[2,3]$ 

23. $0 \leq y < 2$

$[0,2)$ 

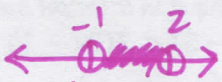
24. $-1 \leq x \leq 4$

$[-1,4]$ 

Solve each inequality. Graph the solution set and write it in interval notation.

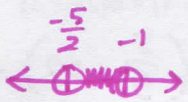
25. $-3 < 3x < 6$

$-1 < x < 2$

$(-1,2)$ 

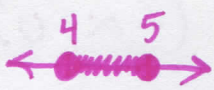
26. $-5 < 2x < -2$

$-\frac{5}{2} < x < -1$

$(-\frac{5}{2}, -1)$ 

27. $2 \leq 3x - 10 \leq 5$

$4 \leq x \leq 5$

$[4,5]$ 

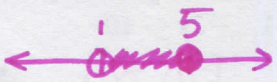
28. $4 \leq 5x - 6 \leq 19$

$2 \leq x \leq 5$

$[2,5]$ 

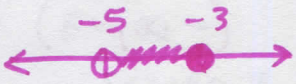
29. $-4 < 2(x-3) \leq 4$

$1 < x \leq 5$

$(1,5]$ 

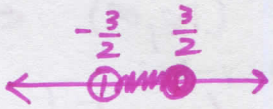
30. $0 < 4(x+5) \leq 8$

$-5 < x \leq -3$

$(-5,-3]$ 

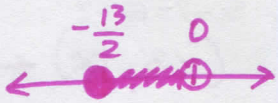
31. $1 < 4 + 2x \leq 8$

$-\frac{3}{2} < x \leq \frac{3}{2}$

$(-\frac{3}{2}, \frac{3}{2}]$ 

32. $-5 \leq 2(x+4) < 8$

$-\frac{13}{2} \leq x < 0$

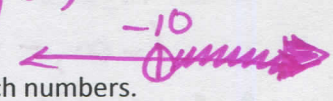
$[-\frac{13}{2}, 0)$ 

Solve the following. Show the set up and your solution to earn full credit.

33. Six more than twice a number is greater than negative fourteen. Find all numbers that makes this statement true.

$2x + 6 > -14$

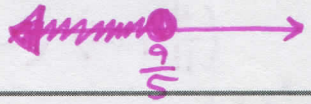
$x > -10$

$(-10, \infty)$ 

34. One more than five times a number is less than or equal to ten. Find all such numbers.

$5x + 1 \leq 10$

$x \leq \frac{9}{5}$

$(-\infty, \frac{9}{5}]$ 

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.