Set up Quarter 3 Notebook

Begin with Table of Contents

Number pages until 50

Warm Up

back of p. 1

$2x - 8x + 1 = 49$

$-6x + 1 = 49$

$-1 \quad -1$

$\frac{-6x}{-6} = \frac{48}{-6}$

$x = -8$

$-2(x + 9) = 16$

$-2x - 18 = 16$

$+18 \quad +18$

$\frac{-2x}{-2} = \frac{34}{-2}$

$x = -17$

$2(3x + 5) = 2x + 26$

$6x + 10 = 2x + 26$

$-2x \quad -2x$

$4x + 10 = 26$

$-10 \quad -10$

$\frac{4x}{4} = \frac{16}{4}$

$x = 4$

$\frac{x - 6}{4} + 2 = 8$

$-2 \quad -2$

$4\left(\frac{x-6}{4}\right) = (6)4$

$x - 6 = 24$

$+6 \quad +6$

$x = 30$

RIDDLE: What happened to the plant in math class?

Directions: Solve each equation. Show all work on a separate sheet of paper. After completing each set, find matching answers. One will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

SET 1			
S. $5(x-1)=35$		**10.** $2(2x-9)=38$	
R. $40=15-9x-2$		**7.** $3x-1-7x=-33$	
A. $-2(x-5)-4=-22$		**16.** $-41=-18-(3-4x)$	
O. $-13=4(5x-1)-11x$		**4.** $6(x-1)-x=-21$	
T. $4-2(3x+1)=32$		**14.** $24=28-9x+13x$	

SET 2			
G. $7n+15=5n-9$		**9.** $9n-14=5n+58$	
S. $-4n-1=2n-25$		**1.** $18-4n=2n+60$	
R. $16-2n=n-11$		**5.** $2n+23=-19-n$	
I. $-15-5n=3n+41$		**17.** $-3n-16=4n-44$	
U. $n-26=28-2n$		**3.** $-5n-34=14-n$	
E. $11n+23=6n-47$		**13.** $-6n+5=2n-67$	

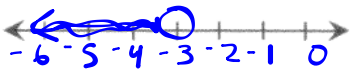
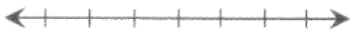
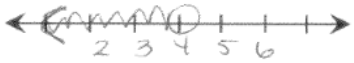
SET 3			
W. $2(3a+5)=2a+54$	11	**15.** $18a-9=5(2a+3)$	3
E. $4-7a=3-a+13$	-2	**11.** $16-5a+2a-1=41-a$	-13
Q. $5(2a-3)=3(a-19)$	-6	**2.** $4(2a-9)=5(3a-7)-1$	0
T. $3(4-a)=2(a+6)$	0	**12.** $7(3a+4)=11(a-1)+19$	-2
R. $8-(2a+7)=a+40$	-13	**6.** $\frac{1}{2}(8a-20)=2(a+6)$ $4a-10=2a+12$	11
O. $-2(6a-1)=-\frac{5}{3}(3a+15)+6$	3	**8.** $6a+34=3-(2a+17)$	-6

ANSWER:

1.	2.		3.	4.	5.	6.		7.	8.	9.	10.	11.	12.		13.	14.	15.	16.	17.	!

0.

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples			
inequality symbols	LESS THAN	LESS THAN OR EQUAL TO	GREATER THAN	GREATER THAN OR EQUAL TO
	<	≤	>	≥
graphing inequalities open circle when > or < Closed circle when ≥ ≤	**Directions:** Graph each inequality on the number line.			
	1. $x > -8$ 		**2.** $k \leq 5$ 	
	3. $m < -3$ 		**4.** $p \geq 14$ 	
	5. $7 > p$ $p < 7$ 		**6.** $-2 \leq n$ 	
translating inequalities	**Directions:** Translate each inequality, then graph.			
	7. "A number is less than 4." $n < 4$ 			
	8. "A number is greater than or equal to -18." $n \geq -18$ 			
	9. "A number is at least -2." $n \geq -2$ 			
	10. "A number is no more than 9." $n \leq 9$ 			
	11. "A number is at most 40." $n \leq 40$ 			
solutions to inequalities	**Directions:** State whether the number is a solution to the given inequality.			
	12. $x \geq -6$; 4 is $4 \geq -6$? yes	**13.** $n < 8$; 11	**14.** $k \leq 2$; $\frac{4}{3}$	
	15. $a > 15$; 15	**16.** $w \leq -1.6$; 1.7	**17.** $r \geq -\frac{9}{5}$; $-\frac{3}{2}$	

Solving inequalities

- To solve inequalities, you follow the **same steps** as solving equations.
- If you multiply or divide by a negative number, you must switch the inequality symbol!

two-step inequalities

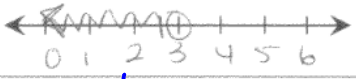
Directions: Solve each inequality and graph the solution.

18. $3x + 1 < 10$

$-1 \quad -1$

$\frac{3x}{3} < \frac{9}{3}$

$x < 3$



19. $\frac{a}{5} - 6 \leq 6$

★ remember to switch the inequality symbol when x or ÷ by a negative number.

20. $-2y + 22 < 18$

$-22 \quad -22$

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

$y > 2$

21. $7m + 11 \geq -31$

22. $\frac{w}{-7} + 4 > 5$

23. $4 - 3k \leq -23$

24. $\frac{3}{8}x - 16 < -25$

$+16 \quad +16$

$\frac{8}{3}\left(\frac{3}{8}\right)x < (-9)\frac{8}{3}$

$x < -24$

25. $\frac{p+9}{-4} < -5$

After Quiz ~

Finish Inequalities Practice

IXL

Grade 8

Lessons X.2, X.3 and X.7

(reach smart score of 80)