

1ST 5
Write an inequality for each graph

1) $x \geq 0$

2) $x > -1$

Solve and Graph the inequalities.

3) $7 < x + 9$

$$\begin{aligned} -9 & -9 \\ -2 < x & -9 \\ x > -2 & \end{aligned}$$

4) $x - 3 \leq 4$

$$\begin{aligned} +3 & +3 \\ x \leq 7 & \end{aligned}$$

Inequalities Day 3

Practice 3-2

1. $n \geq 9$; $n \geq 9$

2. $y > 2$; $y > 2$

3. $r > -1.5$; $r > -1.5$

4. $b > 6$; $b > 6$

5. $n > -\frac{1}{4}$; $n > -\frac{1}{4}$

6. $c \leq -1$; $c \leq -1$

7. $g < 1.3$; $g < 1.3$

Inequalities Day 3

8. $d < 2.7$; $d < 2.7$

9. $f \geq 10$; $f \geq 10$

10. $x \leq -4$; $x \leq -4$

11. $d \leq 5$; $d \leq 5$

12. $m \geq -1$; $m \geq -1$

13. $v < 7$; $v < 7$

14. $t \geq -13$; $t \geq -13$

15. $y > 9$; $y > 9$

16. $a > 4$; $a > 4$

Inequalities Day 3

17. $d < 1$; $d < 1$

18. $s \leq 0$; $s \leq 0$

19. $h \leq -4$; $h \leq -4$

20. $t \leq 10$; $t \leq 10$

21. $d < 1$; $d < 1$

22. $s \leq 0$; $s \leq 0$

23. $h \leq -4$; $h \leq -4$

24. $t \leq 10$; $t \leq 10$

25. $z \geq -\frac{1}{2}$; $z \geq -\frac{1}{2}$

26. $d \leq -5$; $d \leq -5$

27. $v > 2$; $v > 2$

28. $m > -4$; $m > -4$

29. $f > -5$; $f > -5$

30. $w \leq -3$; $w \leq -3$

Feb 15-7:49 AM

33. $b > \frac{1}{4}$; $b > \frac{1}{4}$

34. $t < -23$; $t < -23$

35. $u < 2$; $u < 2$

36. $z \geq 4$; $z \geq 4$

37. $b \leq 5$; $b \leq 5$

38. $k < -2$; $k < -2$

39. $a \leq 2$; $a \leq 2$

40. $b > 11$; $b > 11$

41. $k > 11$; $k > 11$

42. $j > 1.5$; $j > 1.5$

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SOLVING INEQUALITIES USING MULTIPLICATION AND DIVISION

• Multiplying/Dividing by a Positive Number

• Solve $2x \leq 10$. Graph the solution.

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

$$x \leq 10$$

• Solve $\frac{8x}{3} \leq -4$. Graph the solution.

$$\frac{8x}{3} \leq -4$$

$$x \leq -12$$

Inequalities Day 3

SOLVING INEQUALITIES USING MULTIPLICATION AND DIVISION
 Multiplying/Dividing by a Negative Number

- Solve $-2x \leq 10$. Graph the solution. *multiply by neg. flip the sign*

$$\frac{-2x \leq 10}{-2} \quad \frac{10}{-2} \quad x \geq -5$$

$$-x \leq 5 \quad \text{so } x \geq -5$$

- Solve $\frac{x}{3} \leq -4$. Graph the solution.

$$\frac{x}{3} \leq -4 \quad \cdot 3 \quad x \geq -12$$

Inequalities Day 3

$$4\left(\frac{t}{4} \geq -1\right)4$$

$$t \geq -4$$

Inequalities Day 3

$$\left(1 \leq \frac{w}{2}\right) \cdot 2$$

$$-2 \geq w \quad (\text{mult. by neg.})$$

$$w \leq -2 \quad (\text{get } w \text{ on left})$$

Inequalities Day 3

$$\frac{2}{5}\left(-5 \leq \frac{5}{2}k\right) \cdot \frac{5}{2}$$

$$-2 \leq k$$

$$k \geq -2$$

$$\frac{5}{2} \cdot \frac{2}{5} = 1$$

$$\frac{10}{10} = 1$$

Inequalities Day 3

$$\frac{-20 > -5c}{-5} \quad \frac{-5}{-5}$$

$$4 < c \quad (\div \text{ by neg.})$$

$$c > 4$$

Inequalities Day 3

SOLVING TWO - STEP INEQUALITIES
 Using More Than Two Step

- Solve $7 + 6a > 19$

$$\frac{7 + 6a > 19}{-7} \quad \frac{-7}{-7}$$

$$\frac{6a > 12}{6} \quad \frac{12}{6}$$

$$a > 2$$

- Solve $-3x - 4 \leq 14$

$$\frac{-3x - 4 \leq 14}{+4} \quad \frac{+4}{+4}$$

$$\frac{-3x \leq 18}{-3} \quad \frac{18}{-3}$$

$$x \geq -6$$

Inequalities Day 3

SOLVING TWO - STEP INEQUALITIES

o Solve $-8 < 5n - 23$ o Solve $5k + 12 \leq 2$

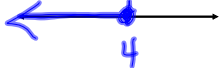
$$\begin{array}{r} +23 \quad +23 \\ \hline 15 < 5n \\ \hline 3 < n \end{array}$$

$$\begin{array}{r} -12 \quad -12 \\ \hline 5k \leq -10 \\ \hline k \leq -2 \end{array}$$


$n > 3$

$k \leq -2$

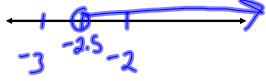
Inequalities Day 3

$$\begin{array}{r} 4d + 7 \leq 23 \\ -7 \quad -7 \\ \hline 4d \leq 16 \\ \hline d \leq 4 \end{array}$$


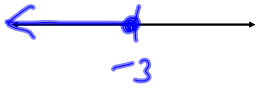
Inequalities Day 3

$$\begin{array}{r} 5m - 3 > -18 \\ +3 \quad +3 \\ \hline 5m > -15 \\ \hline m > -3 \end{array}$$


Inequalities Day 3

$$\begin{array}{r} -4x - 2 < 8 \\ +2 \quad +2 \\ \hline -4x < 10 \\ \hline x > -\frac{5}{2} \\ -2.5 \end{array}$$


Inequalities Day 3

$$\begin{array}{r} +5 - 3n \geq -4 \\ -5 \quad -5 \\ \hline -3n \geq -9 \\ \hline n \leq 3 \end{array}$$


Inequalities Day 3

15 Feb 12

PW 28

Workbook pg. 38 # 1-20,
26-45

Do on separate
Sheet