

Curriculum Outcome

PR1: . Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.

PR3. Model and solve problems using linear equations of the form:

$$ax = b; = b, a \neq 0; ax + b = c; +b = c, a \neq 0; = b, x \neq 0 \quad ax \quad ax \quad xa$$

$$ax + b = cx + d; a(bx + c) = d(ex + f); a(x + b) = c; ax = b + cx$$

concretely, pictorially and symbolically, where $a, b, c, d, e,$ and f are rational numbers

Student Friendly: Replacing the equal sign with an inequality sign (ie. $<, >$)

Feb 15-7:58 AM

Warm-Up

$$1) \quad \frac{1}{3}(15 + 3r) = \frac{2}{5}(15 - 5r)$$

$$r = \frac{1}{3}$$

$$2) \quad 3u + 6 - 5u = 17 + 4u - 6$$

$$u = -\frac{5}{6}$$

Feb 28-12:12 PM

Warm-Up



$$1) \frac{1}{3}(15 + 3r) = \frac{2}{5}(15 - 5r)$$

$$\frac{15}{3} + \frac{3r}{3} = \frac{30}{5} - \frac{10r}{5}$$

$$5 + r = 6 - 2r$$

$$5 + 3r = 6 - 5$$

$$3r = 1$$

$$r = \frac{1}{3}$$

Feb 28-12:12 PM

$$2) 3u + 6 - 5u = 17 + 4u - 6$$

$$-2u + 6 = 11 + 4u$$

$$6 - 11 = 11 + 6u$$

$$\frac{-5}{6} = \frac{6u}{6}$$

$$u = -\frac{5}{6}$$

Feb 20-8:42 AM

Class/Homework



Any Questions????

Last nights
homework

Text book questions
or worksheet questions

Feb 24-9:54 PM

Class/Homework



Class work and homework

Mid-Unit Review

page 286

Questions: 3,4,5, 7, 8,

Worksheet questions

1, 5, 13, 17, 19, 21, 23, 25, 27

Feb 24-9:54 PM

Warm Up

Quiz Time

Feb 11-7:47 AM

Section 6.3

Introduction to Linear Inequalities



What is an inequality?

Tallest man
7 feet 9 inches
or 2.36m tall

 $>$

Smallest man
29 inches
or 0.74m tall

We use inequalities to model situations that can be described by a range of numbers instead of a single number.



"Pick a number greater than 7."

$$x > 7$$

Feb 28-10:49 AM


When one quantity is....


less than $<$

greater than $>$

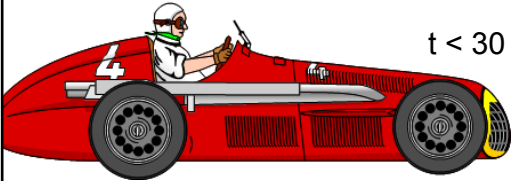
less than or equal to \leq

greater than or equal to \geq





Which of these inequalities describes the time, t minutes, for which a car could be legally parked?



$t > 30$


$t < 30$

$t \geq 30$

$t \leq 30$


Feb 28-11:28 AM

Define a variable and write an inequality for each of the following situation:




Variable: x

Inequality: $x \leq 55$




Variable: y

Inequality: $y < 4$



Variable: a


Inequality: $a \geq 102$



Variable: b

Inequality: $b \geq 14$

Feb 28-11:34 AM




CAPTAIN ANSWER

Determining whether a number is a solution to an inequality

Is each number a solution of the inequality $b \geq -4$?

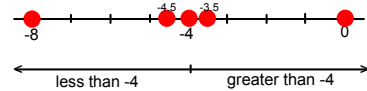
-8 3.5 -4 -4.5 0

We can do this in TWO different ways:



Method 1: Using a Number Line

Show all numbers on a line.
The solution of $b \geq -4$ is all numbers that are greater than (to the right) or equal to -4.



← less than -4 greater than -4 →

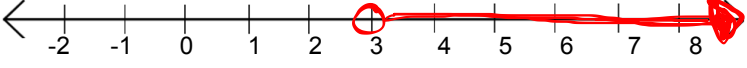
Method 2: Use Substitution.

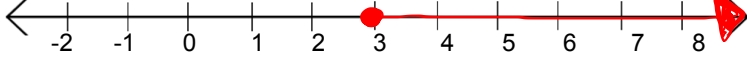
Substitute each number for b in the inequality $b \geq -4$.
Determine whether the resulting inequality is true or false.

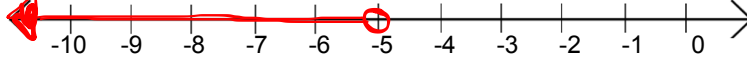
- a) Since $-8 \geq -4$ is false, -8 is not a solution.
- b) Since $-3.5 \geq -4$ is true, -3.5 is a solution.
- c) Since $-4 \geq -4$, -4 is a solution.
- d) Since $-4.5 \geq -4$ is false, -4.5 is not a solution.
- e) Since $0 \geq -4$ is true, 0 is a solution.

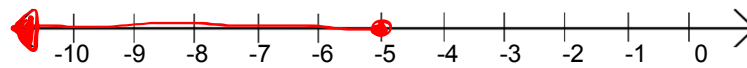
Feb 28-11:44 AM

Graphing inequalities

$a > 3$ 

$a \geq 3$ 

$b < -5$ 

$b \leq -5$ 

Feb 28-11:48 AM

$$x + 3 > 5$$

$$x > 2$$

Feb 20-9:10 AM

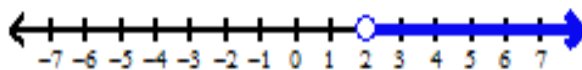
Write the inequality given by the following graph.

1)



$$y \leq -1$$

2)



$$x > 2$$



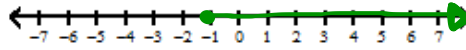
Mar 15-7:29 PM

You try

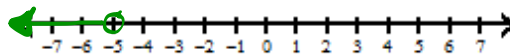
think!
think!
think!



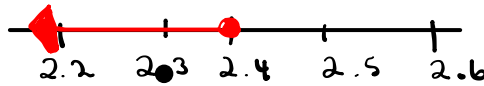
1) $k \geq -1$



2) $x < -5$



3) $a \leq 2.4$



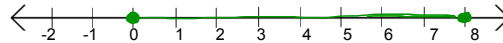
Mar 15-7:27 PM

Graphing inequalities

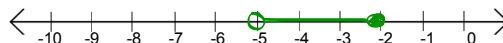
$-2 < p < 3$



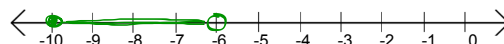
$0 \leq a \leq 8$



$-5 < t \leq -2$



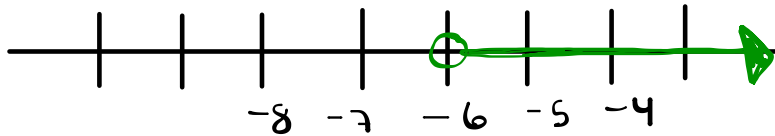
$-10 \leq g < -6$



Feb 28-11:48 AM


$$-6 < t$$

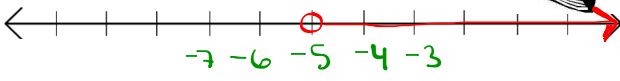
$$t > -6$$

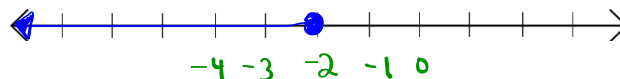


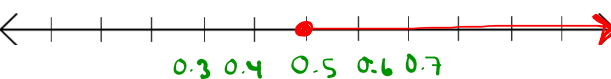
Mar 14-9:06 AM

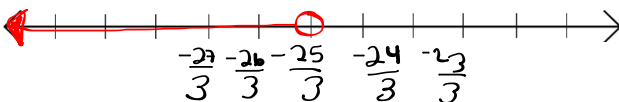
Graph each inequality on a number line.



a) $t > -5$ 

b) $-2 \geq x$ 
 $x \leq -2$

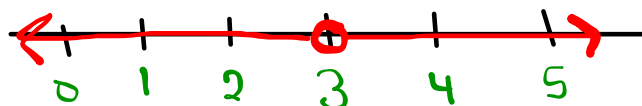
c) $0.5 \leq a$ 
 $a \geq 0.5$

d) $p < \frac{-25}{3}$ 

Mar 15-9:51 AM

$$x \neq 3$$

x does not equal 3



Feb 20-9:31 AM

Class/Homework

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Questions: 3(aceg), 4, 7(ac), 8,9,

12,13(aceg)

Mar 15-8:14 PM