

Warm-up 8-26

Solve each equation for x.

1. $x - 5 = 3$

2. $x = 8 - 3$

3. $2x - 3 = 3$

4. $3x = 2x - 13$

Name: _____

Date: _____

Algebra Practice Problems - ANSWERS

1) $8 = x + 1$ **answer:** $x = 7$

2) $x + 7 = 11$ **answer:** $x = 4$

3) $x + 3 = 11$ **answer:** $x = 8$

4) $-5 + x = -\frac{43}{8}$ **answer:** $x = -\frac{3}{8}$

5) $x / 4 = -7$ **answer:** $x = -28$

6) $2x + 6 = 8$ **answer:** $x = 1$

7) $-2x + 2 = -6$ **answer:** $x = 4$

8) $4x + 5 = 1$ **answer:** $x = -1$

9) $-7x - \frac{3}{8} = -\frac{619}{8}$ **answer:** $x = 11$

10) $1 + 2x = 15$ **answer:** $x = 7$

11) $-7x - 1 + 6x = -5$ **answer:** $x = 4$

12) $-9 + 7x = -2x - 72$ **answer:** $x = -7$

13) $4 - x = 5x - 26$ **answer:** $x = 5$

14) $2x + 8 = -x + 44$ **answer:** $x = 12$

Quiz

One and two step applications.

- 1) Perry spent \$30 on a magazine and some candy bars. If the magazine cost \$6 and each candy bar cost \$3, then how many candy bars did he buy? x - candy bars

$$\begin{array}{r}
 6 + 3x = 30 \\
 -6 \quad -6 \\
 \hline
 3x = 24 \\
 \frac{3x}{3} = \frac{24}{3} \\
 x = 8 \text{ candy bars}
 \end{array}$$

- 2) 506 students went on a field trip. Nine buses were filled and 29 students traveled in cars. How many students were in each bus? x - # of students on buses

$$\begin{array}{r}
 29 + 9x = 506 \\
 -29 \quad -29 \\
 \hline
 9x = 477 \\
 \frac{9x}{9} = \frac{477}{9} \\
 x = 53 \text{ students}
 \end{array}$$

- 3) Kayla won 37 super bouncy balls playing hoops at her school's game night. Later, she gave two to each of her friends. She only has 7 remaining. How many friends does she have? x - friends

$$\begin{array}{r}
 37 - 2x = 7 \\
 -37 \quad -37 \\
 \hline
 -2x = -30 \\
 \frac{-2x}{-2} = \frac{-30}{-2} \\
 x = 15 \\
 x = 15 \text{ friends}
 \end{array}$$

- 4) Totsakan spent \$14 on a magazine and some notepads. If the magazine cost \$5 and each notepad cost \$3, then how many notepads did he buy? n - notepad

$$\begin{array}{r}
 5 + 3n = 14 \\
 -5 \quad -5 \\
 \hline
 3n = 9 \\
 \frac{3n}{3} = \frac{9}{3} \quad n = 3 \\
 n = 3 \text{ notepads}
 \end{array}$$

I want you each to think of a time that you had to wait to do something because of your age, size, money...

Once you have one, write that down in your notes.

Today's Goals





I can...

- write and graph inequalities with one variable.
- identify solutions of inequalities with one variable.
- solve one-step inequalities by using addition and subtraction.
- solve one-step inequalities by using multiplication and division.

Section 6.1 - Solving Inequalities

An **inequality** is a statement that two quantities are not equal. The quantities are compared by using the following signs:

Inequality Signs

			
<ul style="list-style-type: none"> - is less than - is fewer than 	<ul style="list-style-type: none"> - is greater than - is more than - exceeds 	<ul style="list-style-type: none"> - is less than or equal to - is no more than - is at most 	<ul style="list-style-type: none"> - is greater than or equal to - is not less than - is at least

A **solution of an inequality** is any value of the variable that makes the inequality true.

Graphing Inequalities

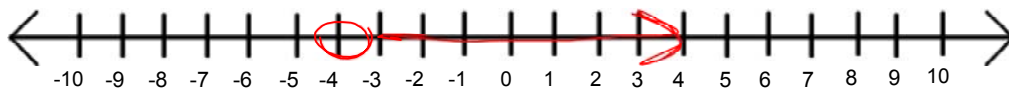
One variable inequalities must be graphed on a number line.

If the inequality sign used is $>$, $<$, \neq then use an open circle to graph.

If the inequality sign used is a \geq , \leq , $=$ then use a closed circle to graph.

Then draw an arrow to include the numbers that would make the statement true

$$x > -4$$



$$x > 5.5$$

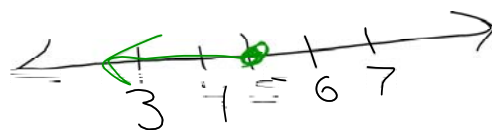


$$y < 35$$



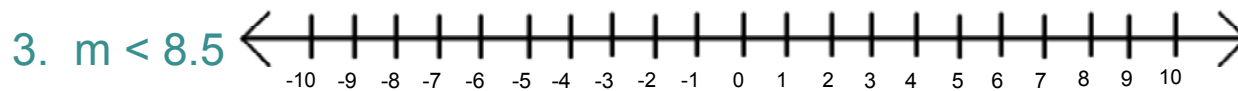
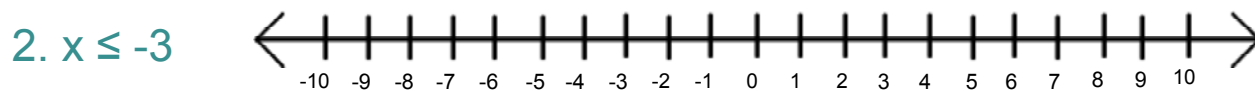
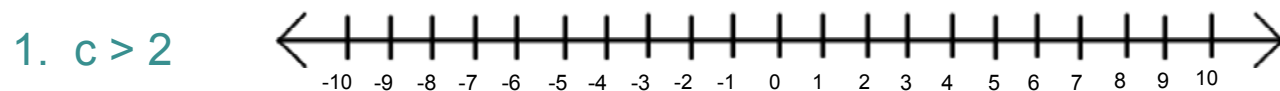
$$5 \geq z$$

$$z \leq 5$$



Try This!

Graph each inequality



Homework

Worksheet

NOT #s 3-8 on the inequality side