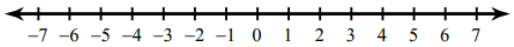
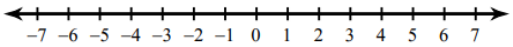
7.1 Inequalities

NOTES

MATH 7

Write your questions here!

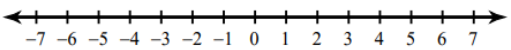
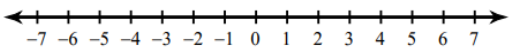
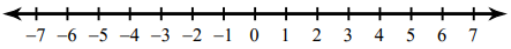
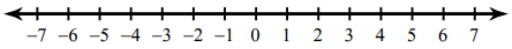
$>$	$<$
$\geq$	$\leq$
$\neq$	

Inequality: $x > 4$ **Expressed in Words:** **Graphed on Number Line:**  **Possible Solutions:**	**Inequality:** $n \leq 2$ **Expressed in Words:** **Graphed on Number Line:**  **Possible Solutions:**

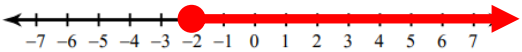
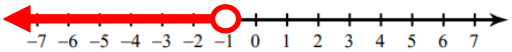
Open dot means

Closed dot means

Graph the following inequalities.

$x \geq -4$  Is $x = 2$ a solution?	$y < 1$  Is $y = 0$ a solution?
$3 \leq t$  Is $t = 1$ a solution?	$n \neq 2$  Is $n = -5$ a solution?

Write the inequality (use *x* as your variable).

 Is $x = 2$ a solution?	 Is $x = -1$ a solution?

SUMMARY:

Now, summarize your notes here!

PRACTICE

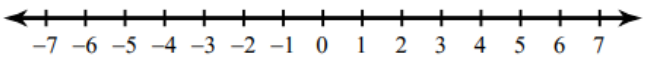
Use the inequality to express in words, graph on the number, and select values that are in the solution set.

1.

Inequality: $x < 6$

Express in words:

Graph on number line:



Circle all values of *x* that make the inequality true:

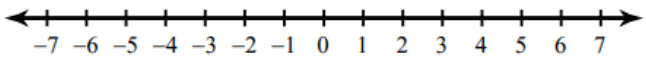
$x = 8$ $x = 2$ $x = 6$ $x = -4$

2.

Inequality: $n \geq -2$

Express in words:

Graph on number line:



Circle all values of *n* that make the inequality true:

$n = 3$ $n = 0$ $n = -5$ $n = -2$

Use the verbal to write the inequality, graph on the number, and select values that are in the solution set.

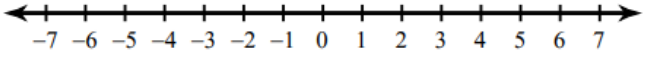
3.

Inequality:

Express in words:

y is a number greater than five

Graph on number line:



Circle all values of *y* that make the inequality true:

$y = 8$ $y = 2$ $y = 5$ $y = -4$

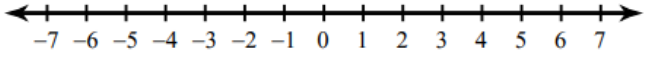
4.

Inequality:

Express in words:

h is a number less than or equal to one

Graph on number line:



Circle all values of *h* that make the inequality true:

$h = 3$ $h = 0$ $h = -5$ $h = 1$

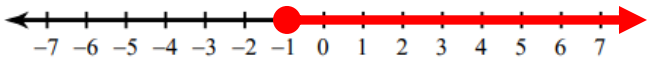
Use the number line to write the inequality, express in words, and select values that are in the solution set.

5.

Inequality:
(use *x* as the variable)

Express in words:

Graph on number line:

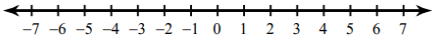


Circle all values of *x* that make the inequality true:

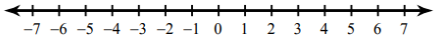
$x = 3$ $x = 0$ $x = -5$ $x = -1$

Rewrite the inequality so that the variable is on the left side. Then graph on the number line.

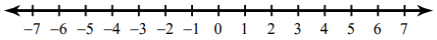
6. $3 > x$



7. $-4 \leq y$

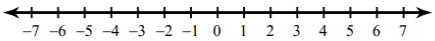


8. $0 < h$



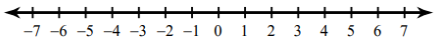
Graph the inequalities on the number line. Determine if the point is in the solution set.

9. $x > 4$



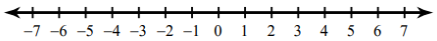
Is $x = 5$ in the solution set?

10. $g \leq -5$



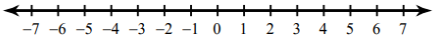
Is $g = 0$ in the solution set?

11. $t < 1$



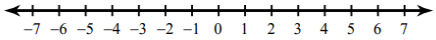
Is $t = 3$ in the solution set?

12. $6 \leq n$



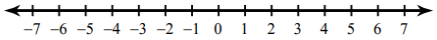
Is $n = -2$ in the solution set?

13. $-3 \geq b$



Is $b = -3$ in the solution set?

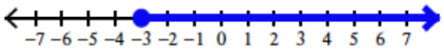
14. $p \neq 2$



Is $p = 4$ in the solution set?

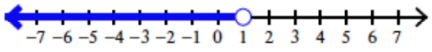
Write an inequality for each graph (use *n* as your variable). Determine if the point is in the solution set.

15.



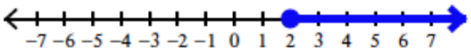
Is $n = 5$ in the solution set?

16.



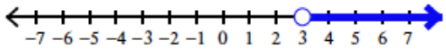
Is $n = 1$ in the solution set?

17.



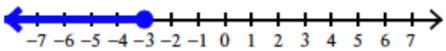
Is $n = 0$ in the solution set?

18.



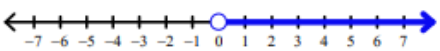
Is $n = 6$ in the solution set?

19.



Is $n = -5$ in the solution set?

20.



Is $n = 3$ in the solution set?

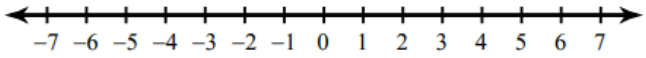
WRAP UP

1. **Use the inequality to express in words, graph on the number, and select values that are in the solution set.**

Inequality: $-2 \geq x$

Express in words:

Graph on number line:



Circle all values of *x* that make the inequality true:

$x = 3$ $x = 0$ $x = -5$ $x = -2$

Circle the words that make the sentences true.

2. When graphing the inequality $n > 6$ on the number line you would use an **open** / **closed** circle and shade to **left** / **right**.

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3. The inequality $p \leq 6$ means that p is **greater than or equal to** / **less than or equal to** 6 and you would **include** / **exclude** 6 in the solution set.

EXIT TICKET –

Write an inequality for each situation and give two possible values that make the inequality true.

a. The school bus can hold at most 48 people.

Inequality: Two possible solutions:

b. Students must have at least a 3.6 GPA to be on the honor roll.

Inequality: Two possible solutions:

c. Baskin Robbins has more than 30 flavors of ice cream.

Inequality: Two possible solutions: