

7.1 Inequalities and Absolute Value

NOTES

Write your questions here!



Review of Inequality Symbols

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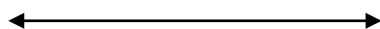
$>$

\geq

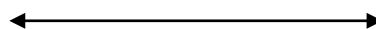
\leq

\neq

Brust is broke...
he has less than \$9 in his wallet



Kelly has no less than \$5 in his wallet.



Sully does not have \$8.



Inequality Graphing

When should you have an open dot?

$$x > -7$$



$$g \leq 14$$



$$h \neq -8$$



When should you have a closed dot?

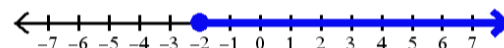
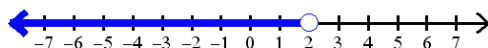
$$-7 < x$$



$$14 \geq g$$



Time to flip it



Absolute Value:



Find the following absolute values.

How about these...

Try these...

SUMMARY:

Now,
summarize
your notes
here!



7.1 Inequalities and Absolute Value

PRACTICE

Directions: Write each situation as an inequality and then graph it.

1) Ktown has less than 50 teachers.

2) Ramstein has no less than 1050 students.

3) Baumholder does not have 400 students.

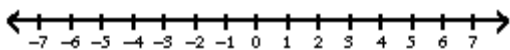
4) The Cavs will win no more than 44 games next season.

5) The Browns will not win 6 games.

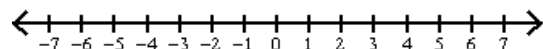
6) The Buckeyes will win more than 9 games this season.

Directions: Graph each inequality.

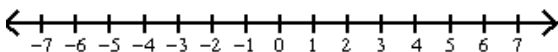
7) $n \geq -5$



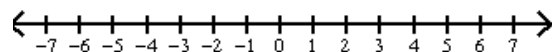
8) $5 \geq n$



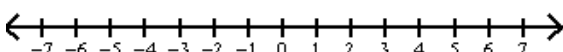
9) $1 > k$



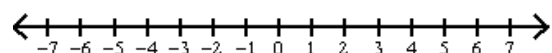
10) $v < 2$



11) $x \leq 5$

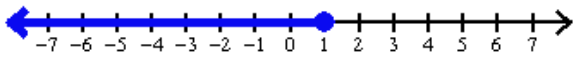


12) $-5 \leq x$

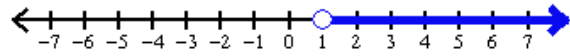


Directions: Write the inequality for the given graph.

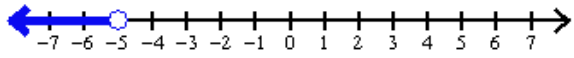
13)



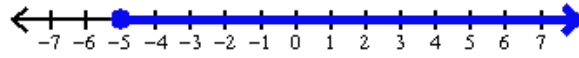
14)



15)



16)



Solve each absolute value equation.

17) $|x| = 10$

18) $|x| = 0.225$

19) $-15 = |x|$

20) $\frac{9}{5} = |x|$

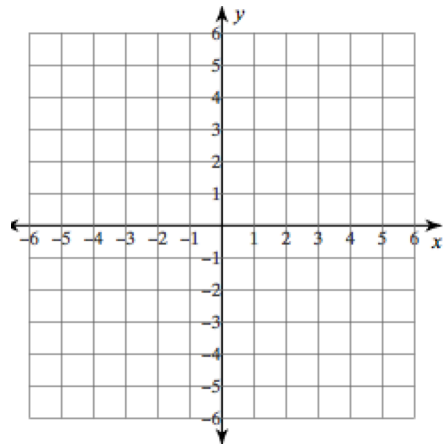
21) $|x| = 0$

22) $\frac{1258}{45} = |x|$

Skillz Review

Graph the line.

1) $x = 4$



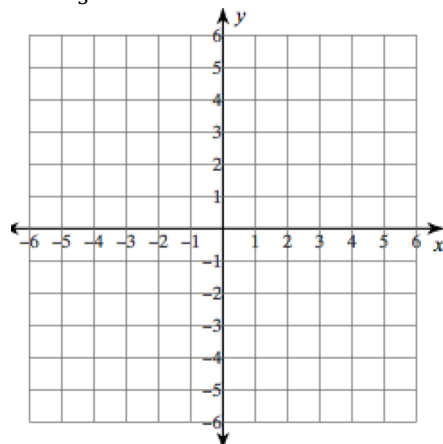
Evaluate.

2) $b^3 - a^2$, when $a = -4$ and $b = -3$

Solve.

3) $-129 = 3b - 3(1 - 5b)$

4) $y = \frac{1}{3}x - 5$



5) $-2g^2 - 3g$, when $g = -4$

6) $-5n + 3n = 6 - 3n$

7.1 Inequalities and Absolute Value

APPLICATION

1) Graph the following inequality.

2) Solve: $|x| = 8$

$$6 < x$$



3) a) Mr. Brust decides that he wants at least 2 kids. Write an inequality and graph it.



b) Mr. Brust's wife decides that she wants no more than 7 kids. Write an inequality and graph it.



c) Complete the following inequality that combines Mr. Brust's decision and his wife's.

$$_ \leq x \leq _$$

Lowest amount of kids



Highest amount of kids

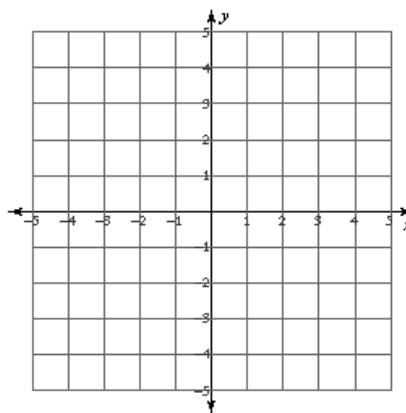


d) Now graph that inequality below. Start by putting dots at the end points and then shade ONLY the parts that fit both Mr. Brust (graph a) and his wife (graph b).



4) a) Complete the following table for $f(x) = |x|$. Then graph it.

X	F(x)
-4	
-2	
0	
	1
	3
	5



b) What shape is the graph?

c) Remember the definition of what a function is? Hmm...probably not. Well a function is a relationship between two variables in which the independent variable(x) goes to one and only one dependent variable(y). Is this a function?