Name: _____ Single Variable

Introduction to Inequalities

An inequality is a pair of expressions or numbers that are not equal.

You can use these signs to express an inequality:

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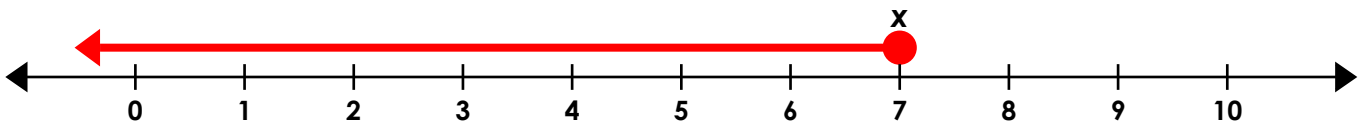
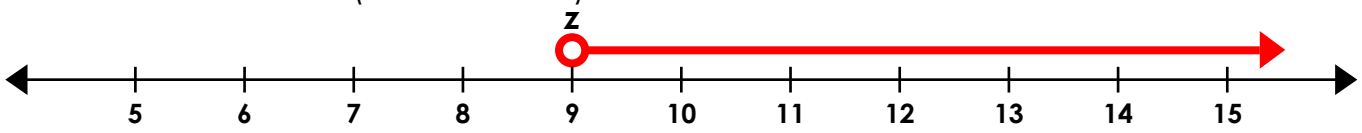
When you solve an inequality, you need to show all of the values that make the statement true. One way to do this is by graphing the inequality on a number line.

examples: **x ≤ 7** (x is less than or equal to 7)



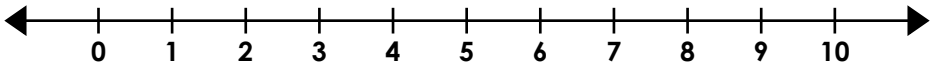
9 < z (9 is less than z)



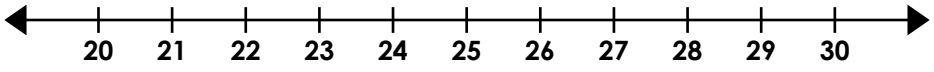
On an inequality graph, an **open circle** is used for ***greater than*** and ***less than***. A **filled circle** is used for ***greater than or equal to*** and ***less than or equal to***.

Write each inequality in words. Then graph each on the number line using a red colored pencil or crayon.

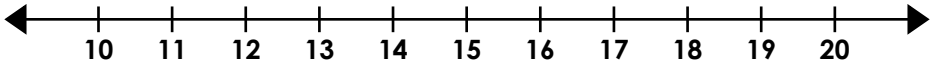
1. $a \geq 3$ word form: _____



2. $25 > q$ word form: _____



3. $t \leq 17$ word form: _____



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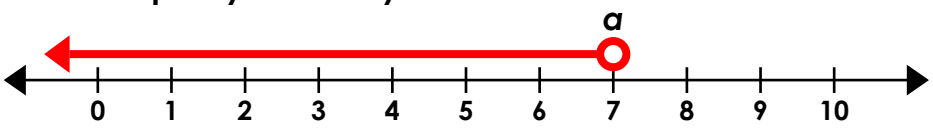
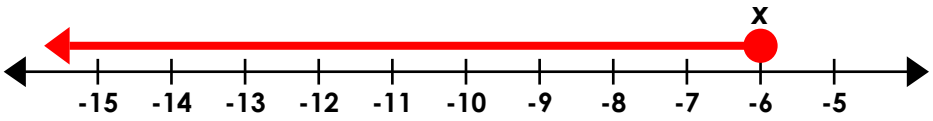
Introduction to Inequalities

Write the inequality shown by each number line.

4. 

answer: _____

5. 

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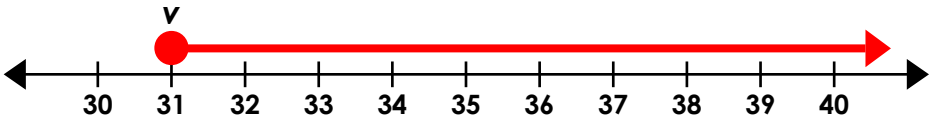
6. 

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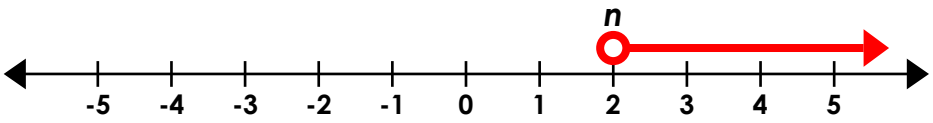
7. 

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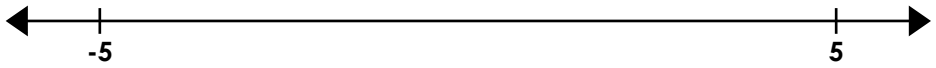
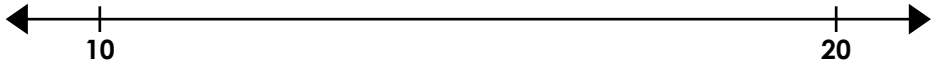
Graph each inequality on the number line using a red colored pencil or crayon.

8. $b \leq 0$



9. $14 < f$



10. For the inequality $k > 7$, Chris says 6.5 and 6 are both solutions. Is he correct? Explain why or why not.

_____

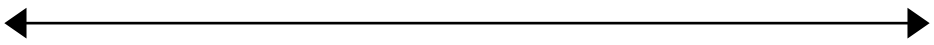
_____

11. For the inequality $y \leq 9$, Jazmín says 9 and 0 are both solutions. Is she correct? Explain why or why not.

_____

_____

12. Kavya is willing to spend $8 or less on a movie ticket. Show this amount on a number line.



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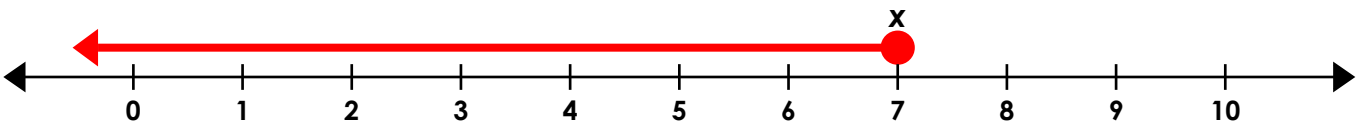

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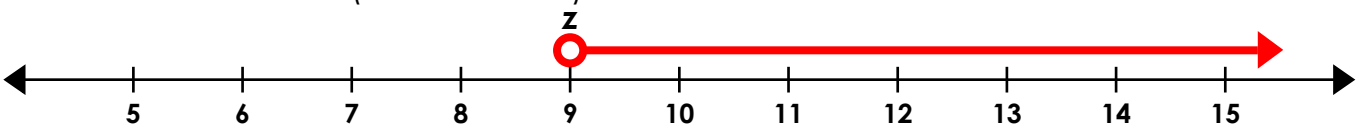

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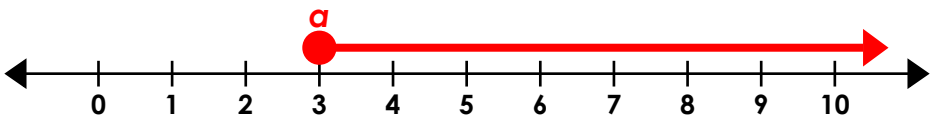
1. $a \geq 3$ word form: ***a is greater than or equal to 3***



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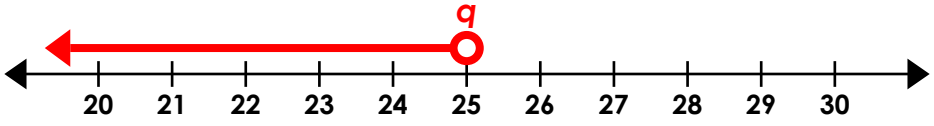
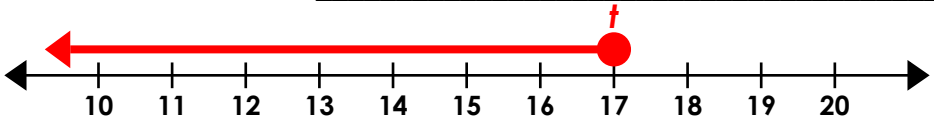


3. $t \leq 17$ word form: ***t is less than or equal to 17***

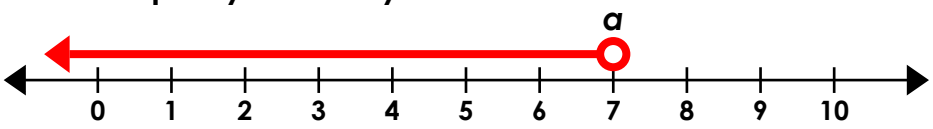


ANSWER KEY

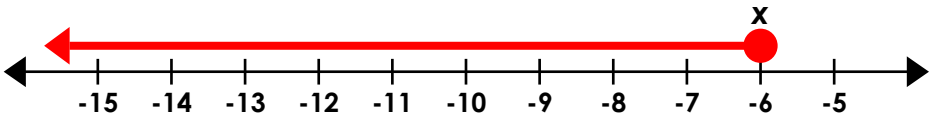
Single Variable

Introduction to Inequalities

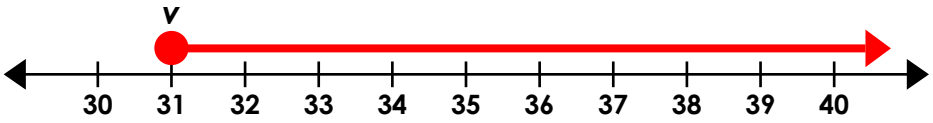
Write the inequality shown by each number line.

4. 

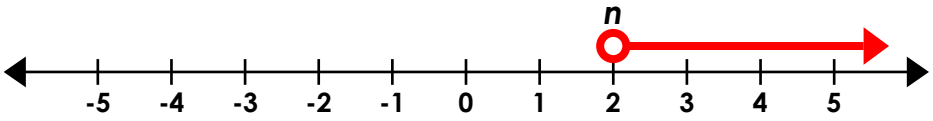
answer: $a < 7$ or $7 > a$

5. 

answer: $x \leq -6$ or $-6 \geq x$

6. 

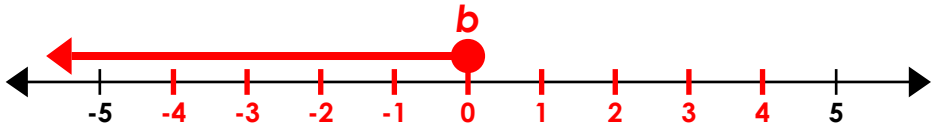
answer: $v \geq 31$ or $31 \leq v$

7. 

answer: $n > 2$ or $2 < n$

Graph each inequality on the number line using a red colored pencil or crayon.

8. $b \leq 0$



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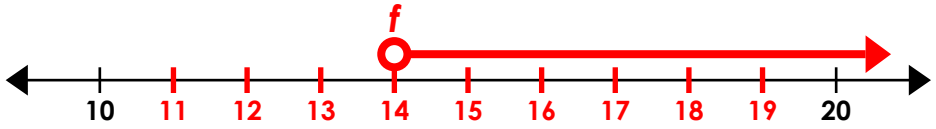

10. For the inequality $k > 7$, Chris says 6.5 and 6 are both solutions. Is he correct? Explain why or why not.

No, Chris is not correct. The inequality states that *k* is greater than 7, so *k* can only be numbers larger than 7.

11. For the inequality $y \leq 9$, Jazmín says 9 and 0 are both solutions. Is she correct? Explain why or why not.

Yes, Jazmín is correct. The inequality states that *y* is less than or equal to 9, so *y* can be any number that is 9 or smaller.

12. Kavya is willing to spend $8 or less on a movie ticket. Show this amount on a number line.