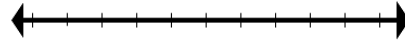
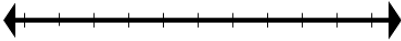


Inequalities Test

Find the following Intervals

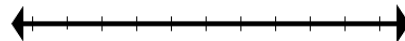
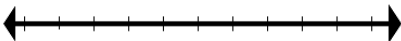
1) $-2(x-5) \geq x+6$

2) $-3 \leq \frac{1}{2}x \leq 4$



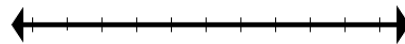
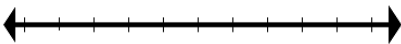
3) $7 > -x$ and $2x + 4 < 0$

4) $3(2x-1) \leq -(x+10)$



5) $-\frac{1}{3}x + 2 \geq 6$

6) $6 \leq 2x + 1 \leq 11$



7) Julie and Matt entered a Turkey Stuffing Contest. Julie stuffed the turkey at the speed of 4 turkeys per minute. Matt entered the contest 6 min late. But he is trying to make it up by stuffing at the speed of 7 turkeys per min.

- a) Write an inequality that represents the interval of time where Julie has stuffed more turkeys than Matt. *Be sure to define your variable!!*
- b) Solve the inequality above; say what the interval represents.
- c) If the contest is 15 min long, who will win?
- d) How many turkeys did the winner stuff in those 15 min?

8) Your mom is working really hard to make cookies for the holidays (She likes to give them to friends and family...) ☺ The morning of Thanksgiving she's already made 40 cookies, but insists on making more. She begins baking 15 cookies per hour.

a) Write an inequality that represents how long it will take her to finish baking if she wants a total of AT LEAST 100 cookies.

b) Solve the inequality above and say what your interval represents

9) Circle all of the values that are in the interval $-5 < 2x - 3 < 11$

a) -5

b) 0

c) 7

d) 4

10) Explain the difference between “open” and “closed” circles and what they represent when you graph intervals of inequalities

11) Explain why $-x > 6$ is really $x < -6$. That is, explain why it is necessary to “flip” the inequality symbol if the variable is negative.