

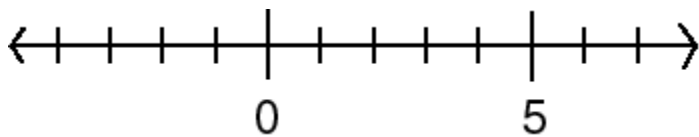
Inequalities and you 2

NAME:

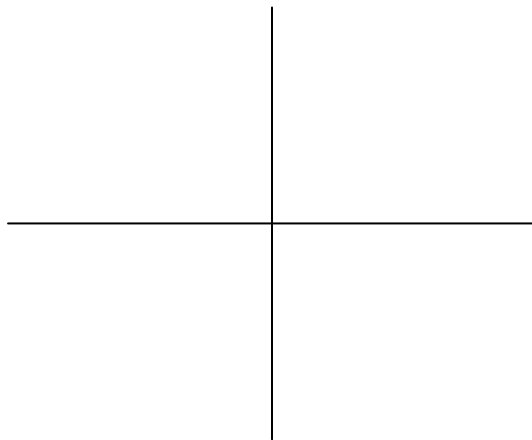
We will solve these inequalities both algebraically and graphically so you can see how the two solutions correspond. You should get the exact same solutions with algebraic and graphical means.

1. Solve the given inequality **algebraically**. Write your solution in both inequality and interval notation (circle both) and graph your solution on the real number line below. (Hint: Remember, the ideas we have developed for equations works here; think about what was done to x and unbury it.)

$$4(3x - 5) \leq 28$$

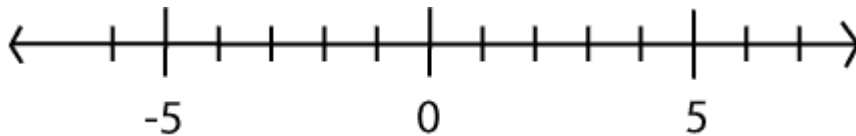


2. Now solve the inequality $4(3x - 5) \leq 28$ **graphically**. Provide an appropriate graph. Label exactly what you have graphed. Circle the part of the graph that indicates the solution, as I have done in the notes. Does your solution match the algebraic one? (Make sure to label the intersection or x -intercept, whichever is important to your solution.)

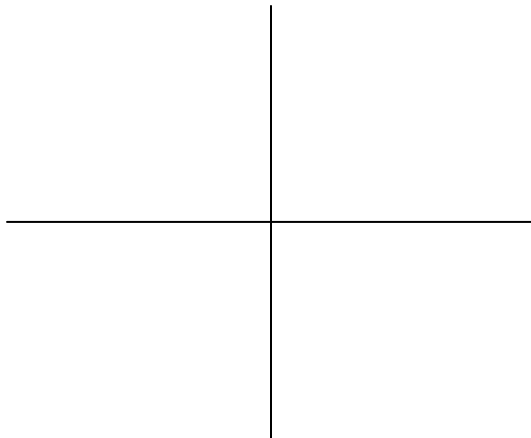


3. Solve the given inequality **algebraically**. Write your solution in both inequality and interval notation (circle both) and graph your solution on the real number line below. (Hint: Remember, the ideas we have developed for equations works here; think about what was done to x and unbury it.)

$$-6x - 15 > 20$$

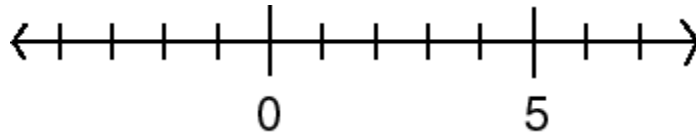


4. Now solve the inequality $-6x - 15 > 20$ **graphically**. Provide an appropriate graph. Label exactly what you have graphed. Circle the part of the graph that indicates the solution, as I have done in the notes. Does your solution match the algebraic one? (Make sure to label the intersection or x -intercept, whichever is important to your solution.)



5. Solve the given inequality **algebraically**. Write your solution in both inequality and interval notation (circle both) and graph your solution on the real number line below. (Hint: Remember, the ideas we have developed for equations works here; think about what was done to x and unbury it.)

$$-4 < \frac{4x+2}{3} \leq 5$$



6. Now solve the inequality $-4 < \frac{4x+2}{3} \leq 5$ **graphically**. Provide an appropriate graph.

Label exactly what you have graphed. Circle the part of the graph that indicates the solution, as I have done in the notes. Does your solution match the algebraic one? (Make sure to label the intersection or x -intercept, whichever is important to your solution.)

