

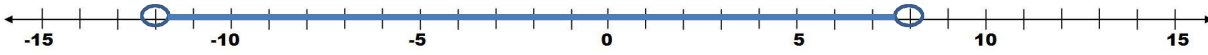
# MasterMath

Name \_\_\_\_\_  
Date \_\_\_\_\_

## Solving and Graphing Compound Inequalities

1. Translate into an Inequality, and then graph: All real numbers that are less than 8 and greater than -12.

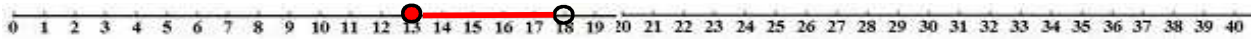
$$-12 < x < 8$$



2. In order to play in the Junior Basketball League, players need to be at least 13 years old, but less than 18 years old. Translate into an Inequality and then graph.



$$13 \leq x < 18$$



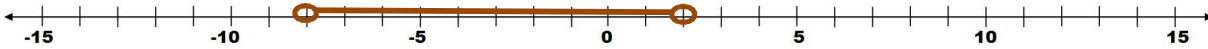
3. We only accept patients who are either older than 14 or younger than 9. Translate into an Inequality and then graph.

$$x > 14 \text{ or } x < 9$$



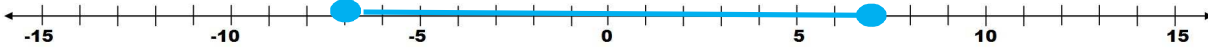
4. Solve and graph:  $4 > x + 2 > -6$

$$2 > x > -8$$



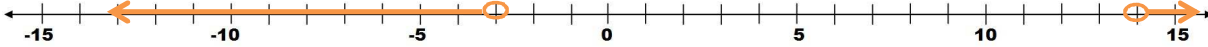
5. Solve and graph:  $-9 \leq 5 - 2x \leq 19$

$$7 \geq x \geq -7$$



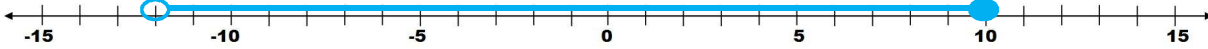
6. Solve and graph:  $-2x > 6$  or  $x - 3 > 11$

$$x < -3 \text{ or } x > 14$$



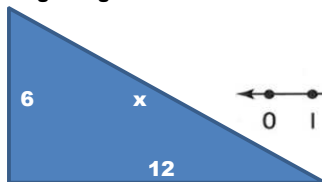
7. Write the Compound Inequality that is described in this graph:

$$-12 \leq x < 10$$



8. The sum of the lengths of any two sides of a triangle is greater than the length of the third side. The perimeter of this triangle is greater than 23. Write a Compound Inequality that describes  $x$ , and then graph:

$$5 < x < 18$$



9. The sum of three times a number and 6 is at least 15 and at most 18. Write and solve a Compound Inequality that describes this situation, and then graph the Inequality.

$$3 \leq x \leq 4$$

