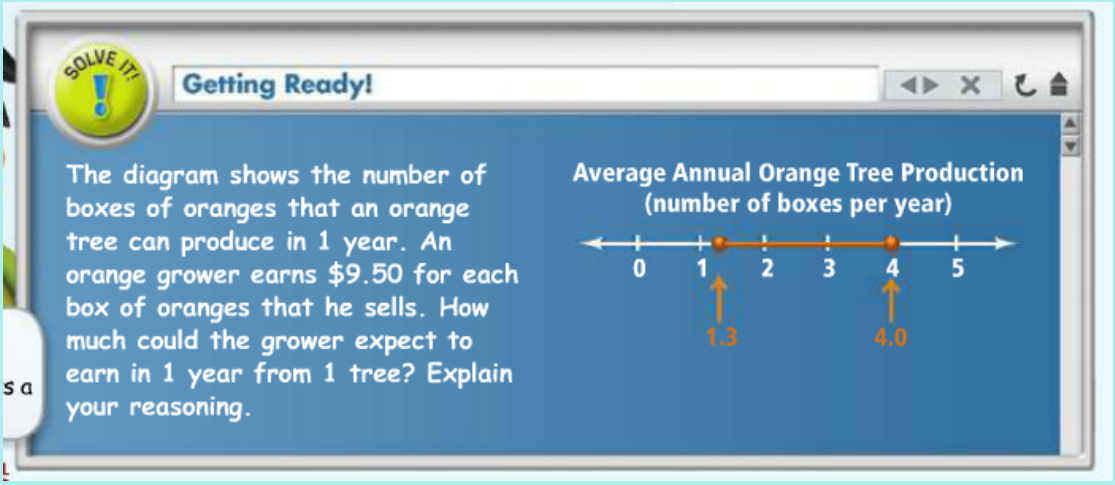
Journal Entry:

Given that the Universe is the set of all modes of transportation, write a possible set A that has any given constraint that you want to. Tell what the constraint on set A is. Then give A'.

# Section 3-6
# Compound Inequalities

Students will be able to:
- -solve and graph inequalities containing the word *and*
- -solve and graph inequalities containing the word *or*




Compound Inequality- consists of two distinct inequalities joined by the word *and* or *or*.

Solutions to an *and* inequality:


Solutions to an *or* inequality:

Write the inequality and graph:

all real numbers greater than or equal to -4 and less than 6

What is the difference in "x is between 2 and 5" and "x is between 2 and 5 inclusive"?

Solve and graph:

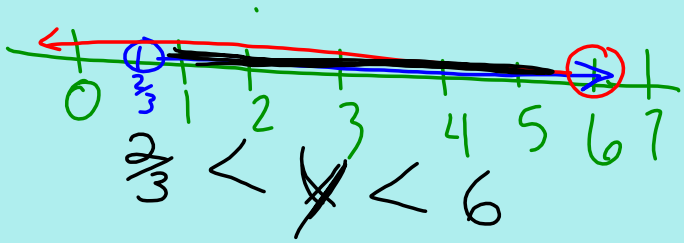
$-2 < 3y - 4 < 14$

$-2 < 3y - 4$ and $3y - 4 < 14$

$+4 \quad +4 \qquad +4 \quad +4$

$\frac{2}{3} < \frac{3y}{3} \qquad \frac{3y}{3} < \frac{18}{3}$

$\frac{2}{3} < y \qquad y < 6$




$\frac{2}{3} < y < 6$

To earn a B in Algebra, you must have an average of 86 up to 89 inclusive. You scored an 86, 83, 91, and 85 on the first four tests. What possible scores can you earn on the last one to get a B in the course?

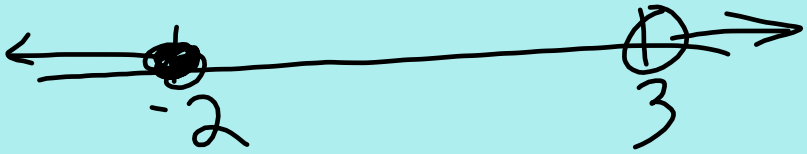
Solve and graph:

$-2y + 7 < 1$ or $4y + 3 \leq -5$

$-7 \quad -7 \qquad -3 \quad -3$

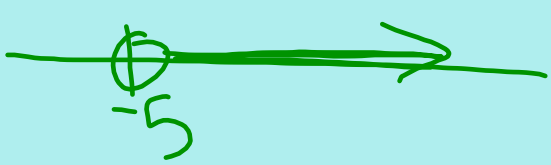
$\frac{-2y}{-2} < \frac{-6}{-2} \qquad \frac{4y}{4} \leq \frac{-8}{4}$

$y > 3 \qquad y \leq -2$




Interval notation: uses parenthesis and brackets to indicate the start and end of the solutions

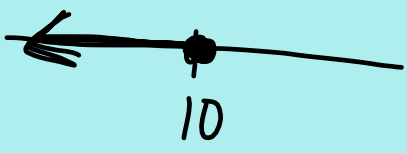
$-5 < x$




$(-5, \infty)$

$x \leq 10$

$(-\infty, 10]$




$2 < x < 8$

$x \leq 0$ or $x \geq 4$

Graph and write the inequality:

(7, 11]

Hwk:
pg. 204 - 206
#10 - 22 (4th), 24 - 36 (even)
37, 43, 44, 48