MYP Algebra I - Level 4 Name _____

Warm Up – Lesson 15 Date _____

Exercise 1

1. What is the definition of a compound sentence?

2. Determine whether each declaration in each of the following claims is **true** or **false**, and then determine whether the entire claim is true or false.

   a. Wilson is a high school or Wilson is an elementary school.

   b. Greece Ridge is a mall and Greece Ridge has a food court.

   c. MCC is a high school and MCC is located in Rochester.

   d. Two is an even integer or three is an odd integer.

   e. Two is an odd integer or three is an even integer.

Lesson

These are all examples of declarative compound sentences.

g. When the two declarations in the sentences above were separated by “and,” what had to be true to make the statement true?

h. When the two declarations in the sentences above were separated by “or,” what had to be true to make the statement true?

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Lesson 15–Solution Sets of Two+ Equations/Inequalities Joined by "And" or "Or"

Example 1

Solve each system of equations and inequalities.

a. $x + 8 = 3$ or $x - 6 = 2$

b. $4x - 9 = 0$ or $3x + 5 = 2$

c. $x - 6 = 1$ and $x + 2 = 9$

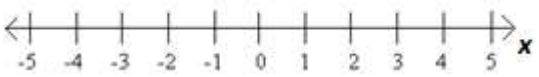
d. $2w - 8 = 10$ and $w > 9$.

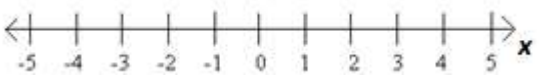
Exercise 2

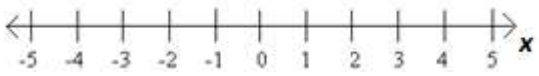
a. On the first number line below, graph the inequality $x < 3$.

b. On the second number line below, graph the inequality $x > -1$.

c. On the third number line below, darken the section of the number line where $x < 3$ and $x > -1$.







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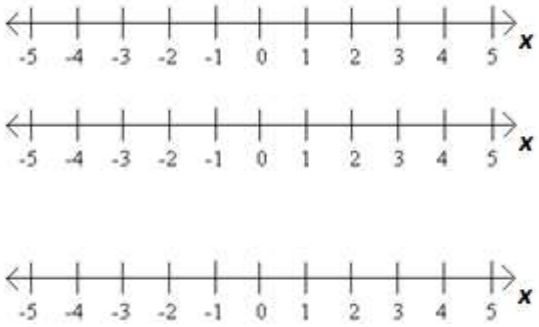
Lesson 15–Solution Sets of Two+ Equations/Inequalities Joined by "And" or "Or"

Exercise 3

a. On the first number line below, graph the inequality $x < -4$.

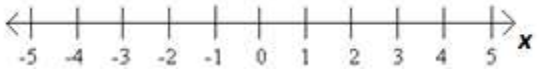
b. On the second number line below, graph the inequality $x > 0$.

c. On the third number line below, darken the section of the number line where $x < -4$ *or* $x > 0$.



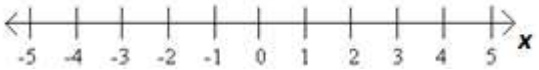
Exercise 4

a. Graph the compound sentence $x > -2$ or $x = -2$ on the number line below.



b. How could we abbreviate the sentence $x > -2$ or $x = -2$?

c. Rewrite $x \leq 4$ as a compound sentence and graph the solutions to the sentence on the number line below.



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Lesson 15–Solution Sets of Two+ Equations/Inequalities Joined by "And" or "Or"

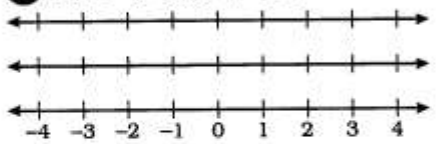
Classwork/Homework

How Do You Find the Archery Range at Summer Camp?

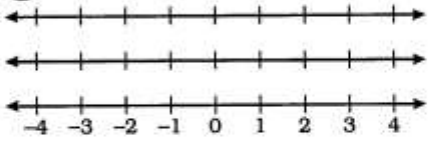
For each compound inequality, graph each of the inequalities, then the solution. Write the solution letter in each box containing the exercise number.

5	10	8	8	10	3	1	6	4	7	9	9	10	3	2

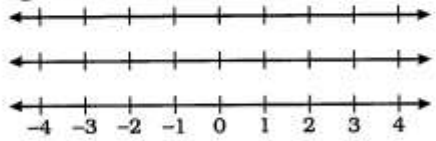
1 $x \geq -3$ and $x < 2$



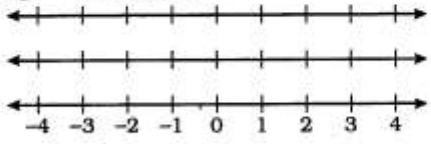
2 $x > -3$ and $x \geq 2$



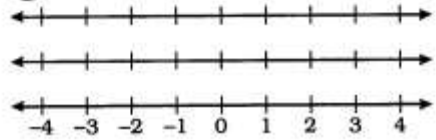
3 $x \leq 3$ and $x < -1$



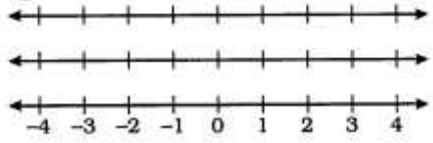
4 $-3 \leq x \leq 0$



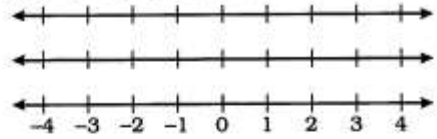
5 $x > -2$ or $x \geq 1$



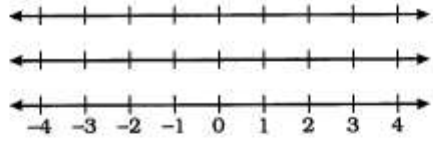
6 $x \leq -2$ or $x > 2$



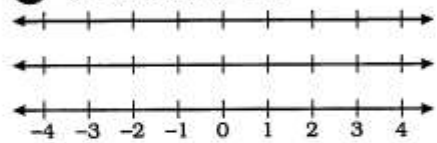
7 $x < 0$ or $x \leq 3$



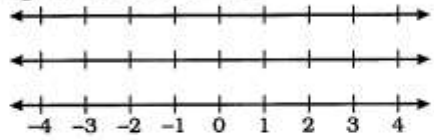
8 $x < -1$ or $x > 2$



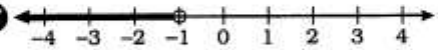
9 $x > 0$ and $x < 3$

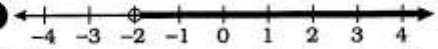


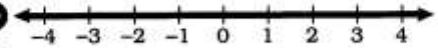
10 $x > 0$ or $x < 3$

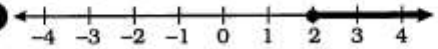


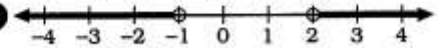
solutions

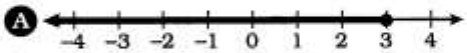
W 

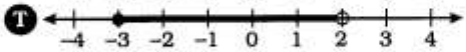
F 

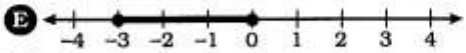
O 

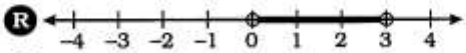
S 

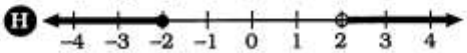
L 

A 

T 

E 

R 

H 

Inequalities:
Graphing Compound Inequalities

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