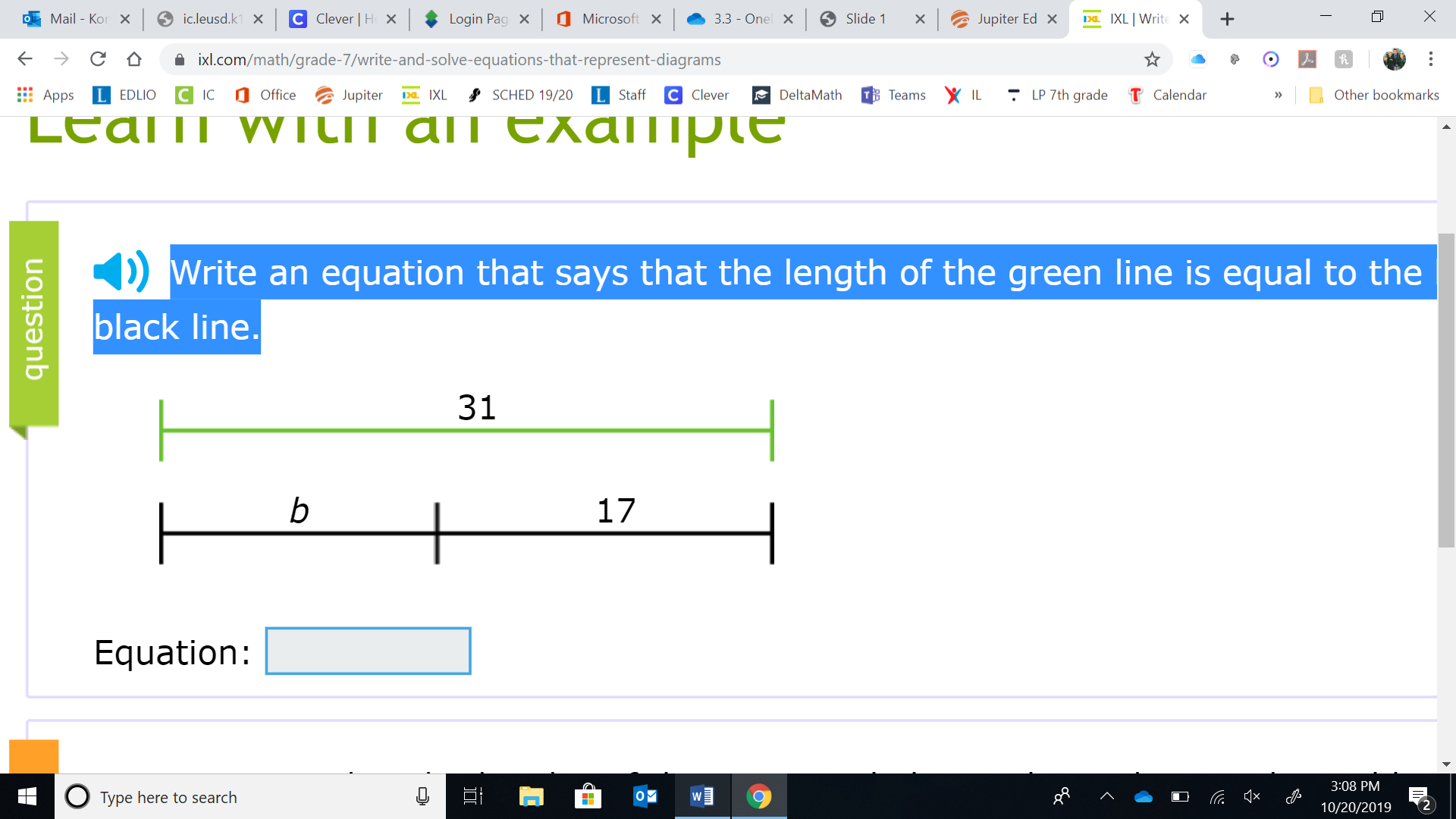
**Lesson 3.3b**

**Write and Solve equations that represent diagrams**

E.Q. How do we use diagrams to write and solve equations?

**WRITING an EQUATION from a DIAGRAM:**

Write an equation that says that the length of the THICK line is equal to the length of the thin line. **Combine Like Terms**

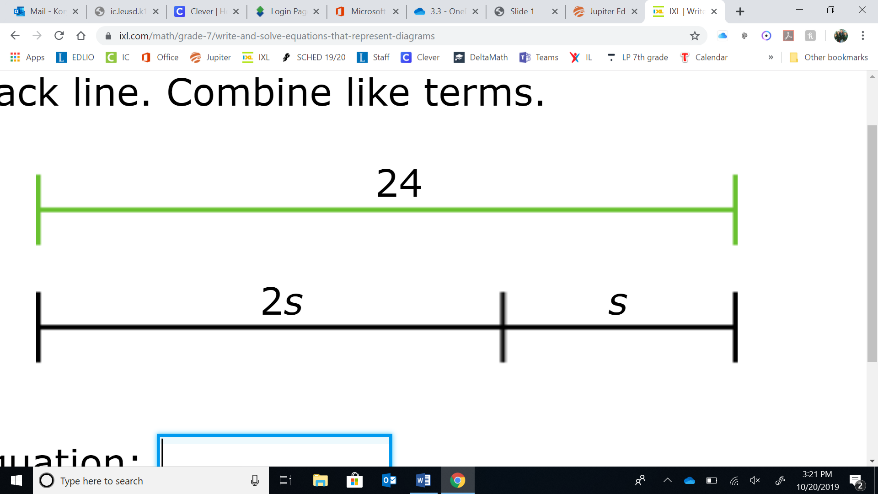
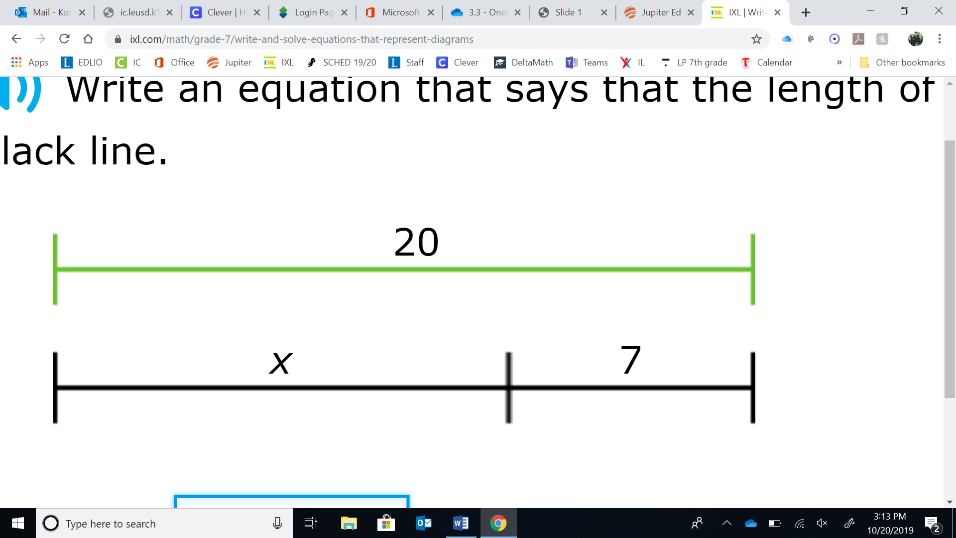
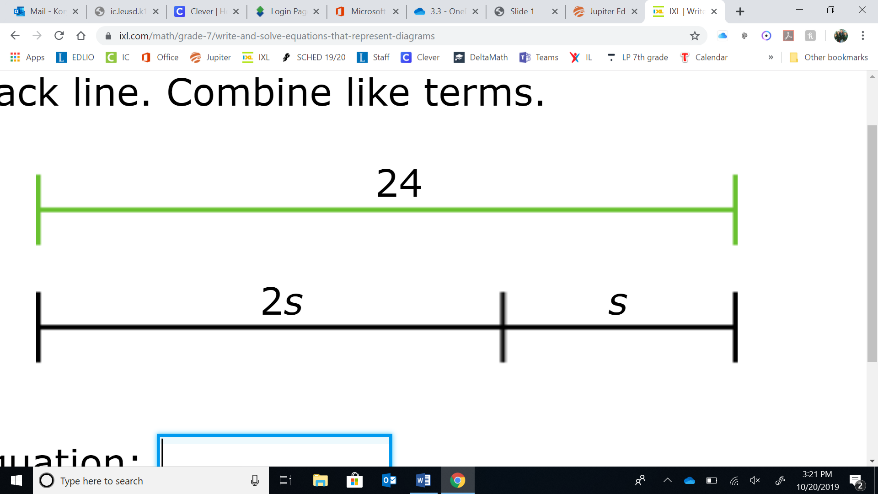


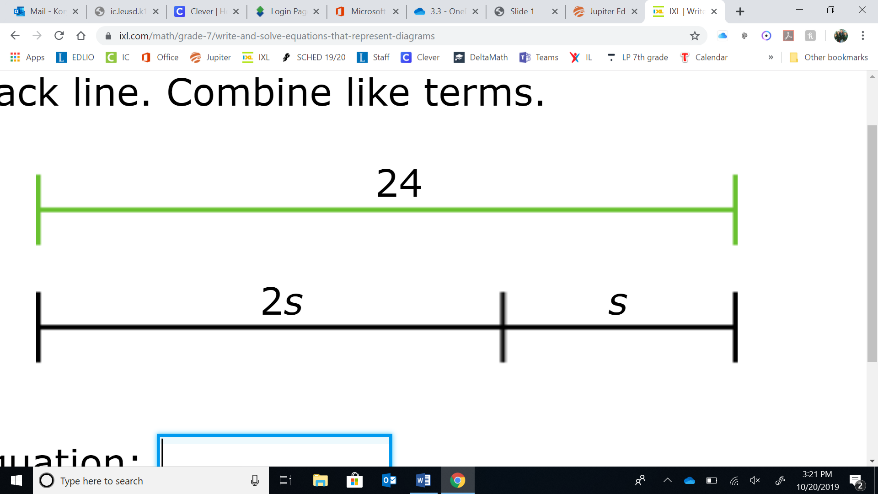
***LENGTH OF THE THICK LINE = LENGTH OF THE THIN LINE***

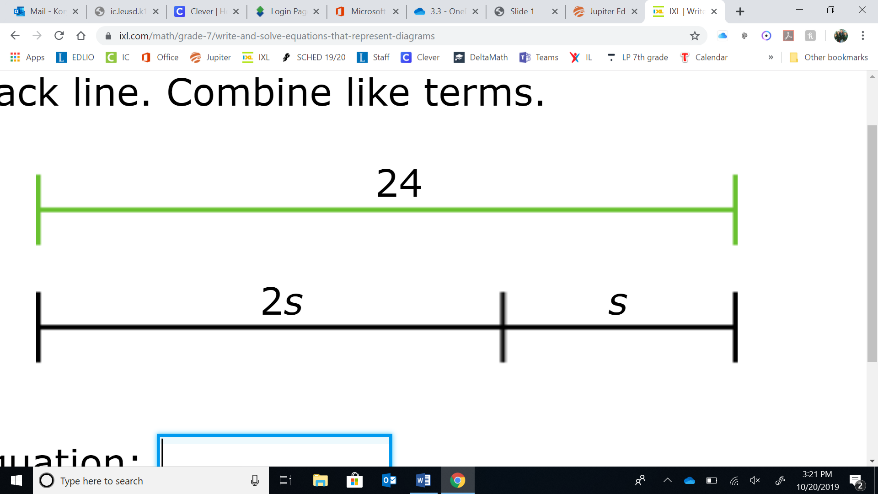
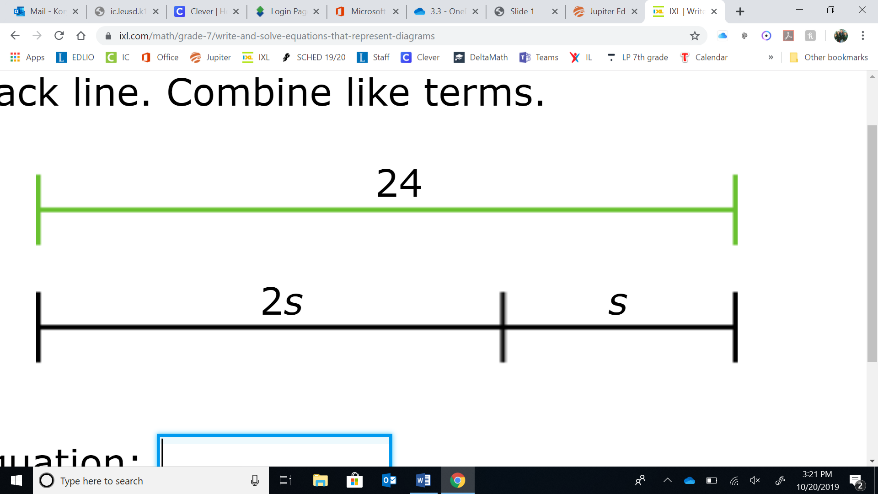
-The length of the **THICK** line = **31**  
  
-The length of the THIN line is the **SUM of its segments**:

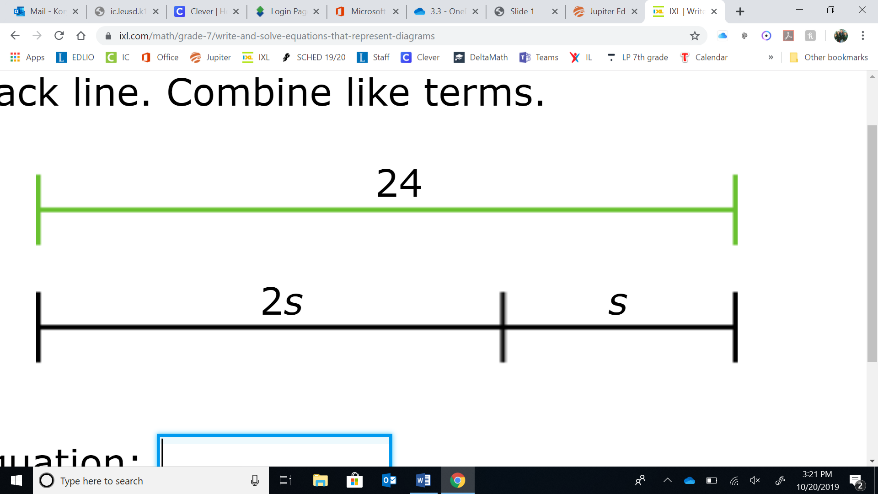
- The length of the THIN line = b + 17  
  
SO: LENGTH OF THE **THICK LINE** = LENGTH OF THE THIN LINE

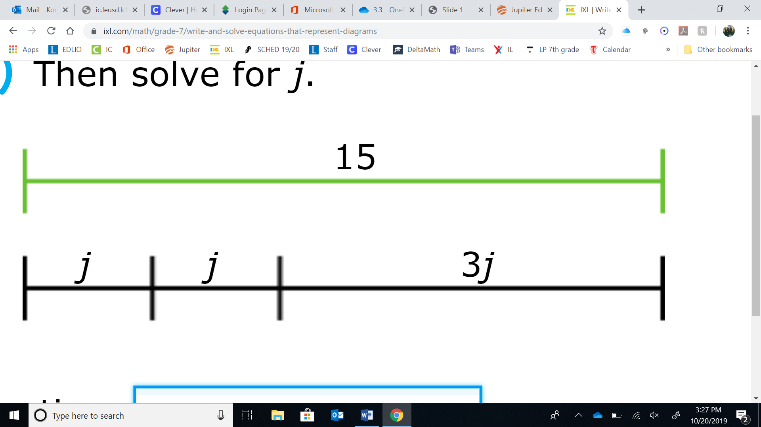
31 = b+17

**PRACTICE WRITING EQUATIONS:**

**20 = x + 7** 

**24 = 2s + s**

**24=3s**



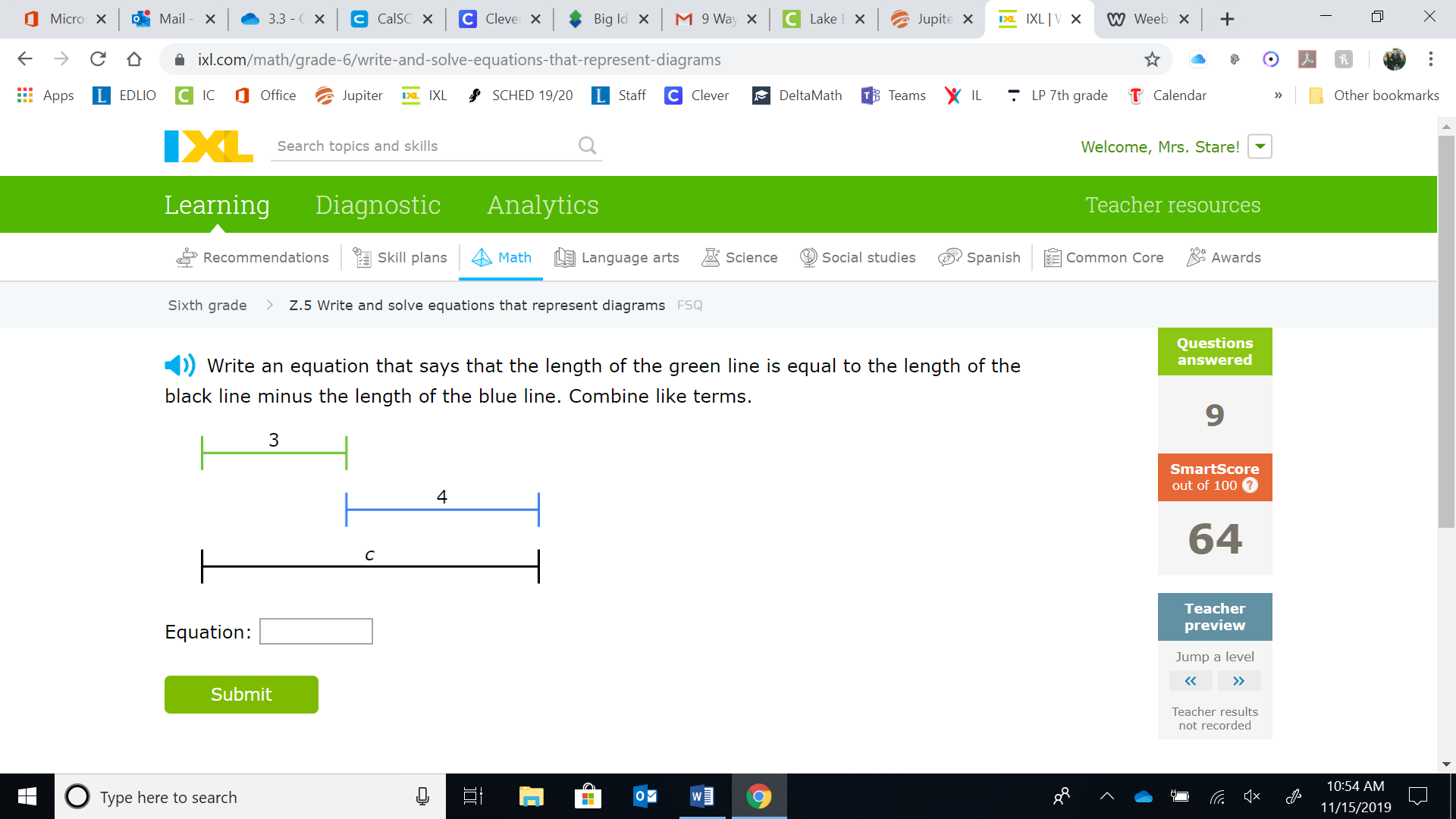
**15=j + j + 3j**

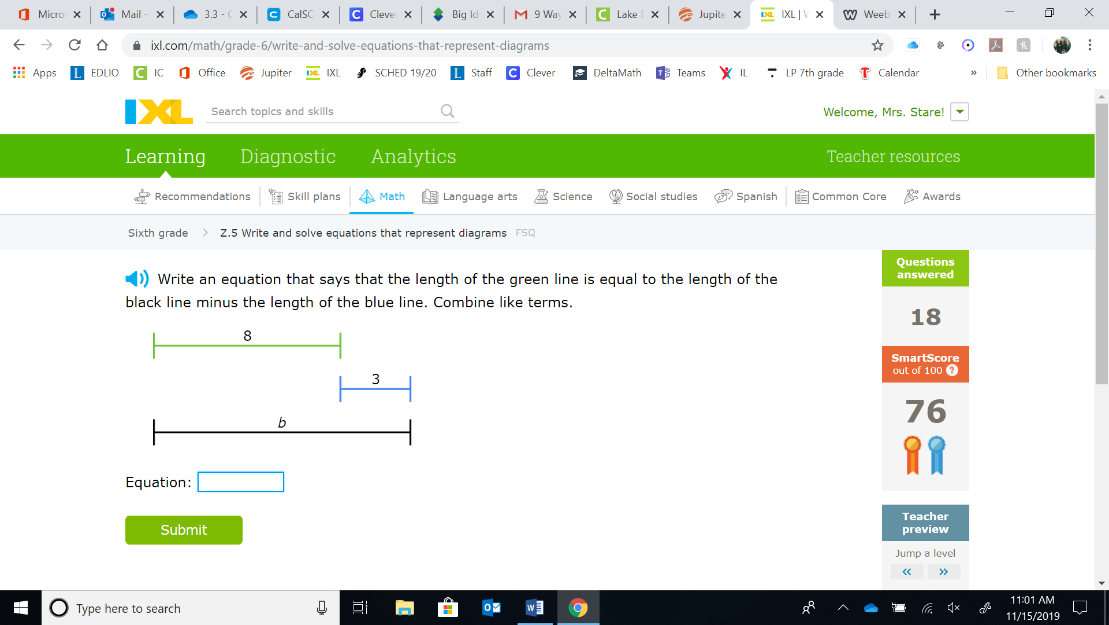
**15= 5j**

Write an equation that says that the length of the THICK line is equal to the length of the thin line MINUS the length of the dashed line (- - -).

**Combine Like Terms**

**THICK =** THIN **- DASHED**

 **3 = C - 4**



**THICK =** THIN **- DASHED**

**8 = b - 3**

**SOLVING the EQUATION:**

Read the equation to yourself. Replace the VARIABLE with the phrase ‘What Number’? The answer is the NUMBER that makes the problem TRUE.

**20 = x + 7** **20 is what number plus 7?**

The number that makes this problem true is 13

**24 = 3s 24 is 3 times what number?**

The number that makes this problem true is 8

**15 = 5j 15 is 5 times what number?**

The number that makes this problem true is 3

**3 = C - 4 3 is what number minus 4?**

The number that makes this problem true is 7

**8 = B - 3 8 is what number minus 3?**

The number that makes this problem true is 11

**Lesson 3.3b**

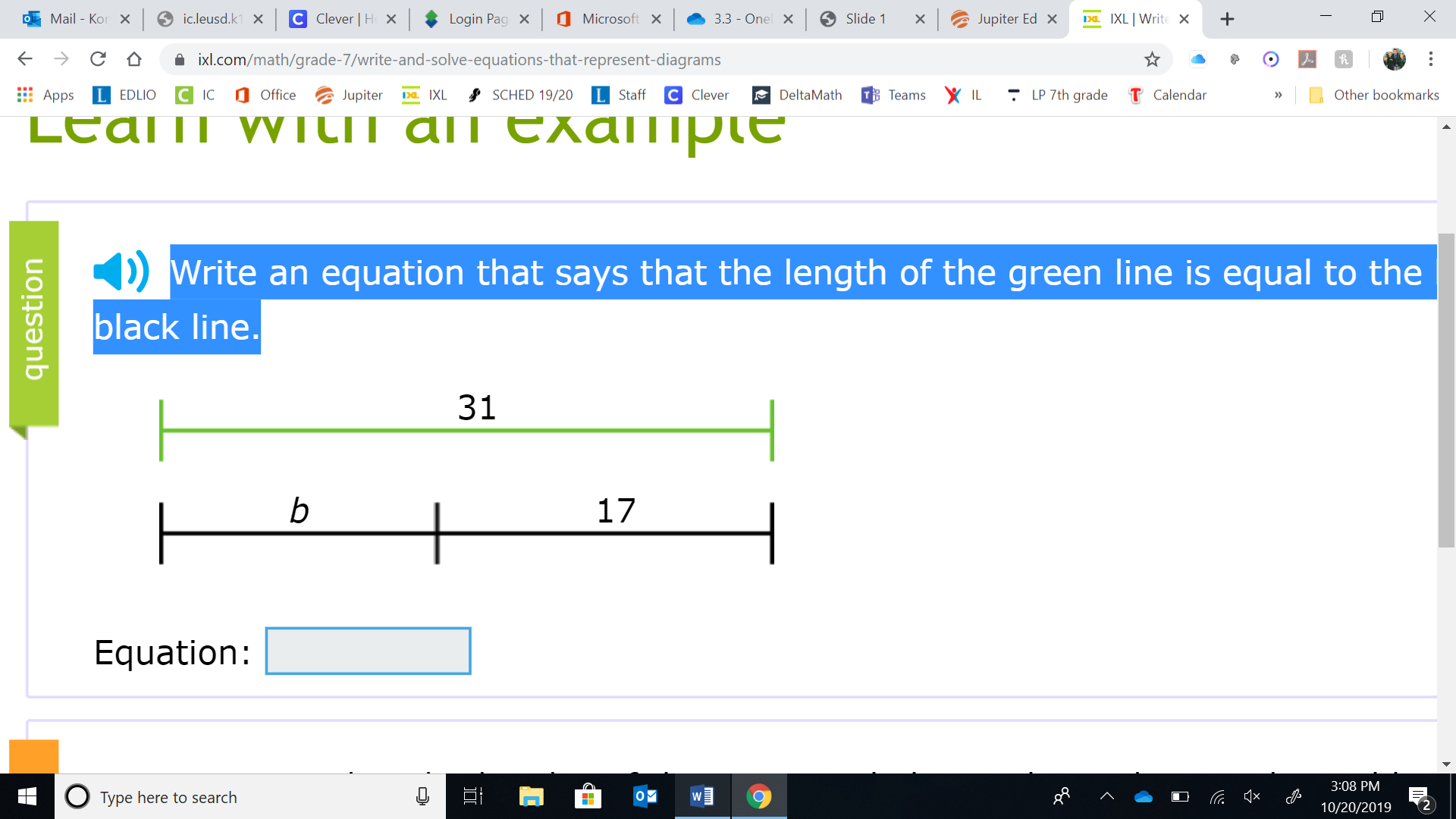
**Write and Solve equations that represent diagrams**

E.Q. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**WRITING an EQUATION from a DIAGRAM:**

Write an equation that says that the length of the THICK line is equal to the length of the thin line. **Combine Like Terms**

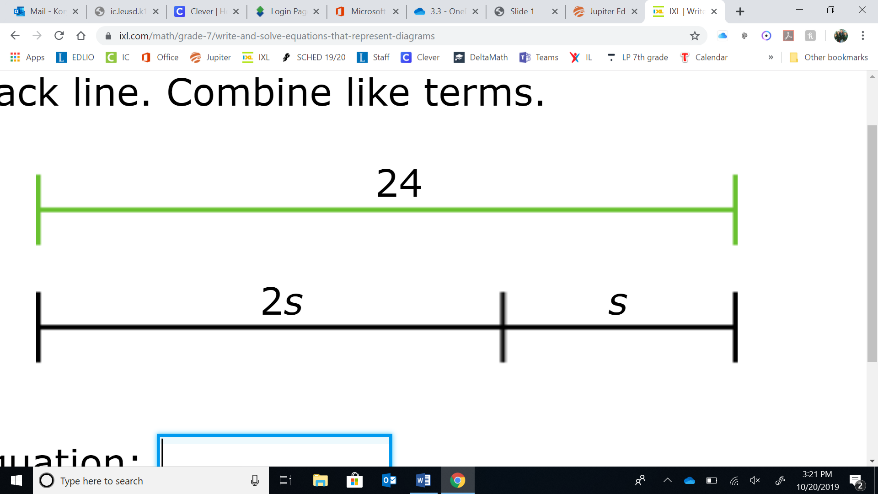
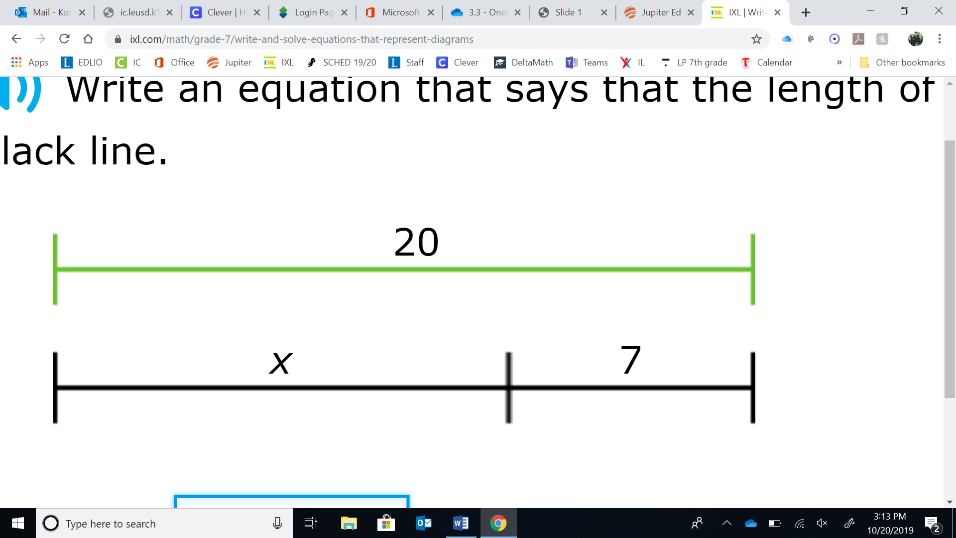
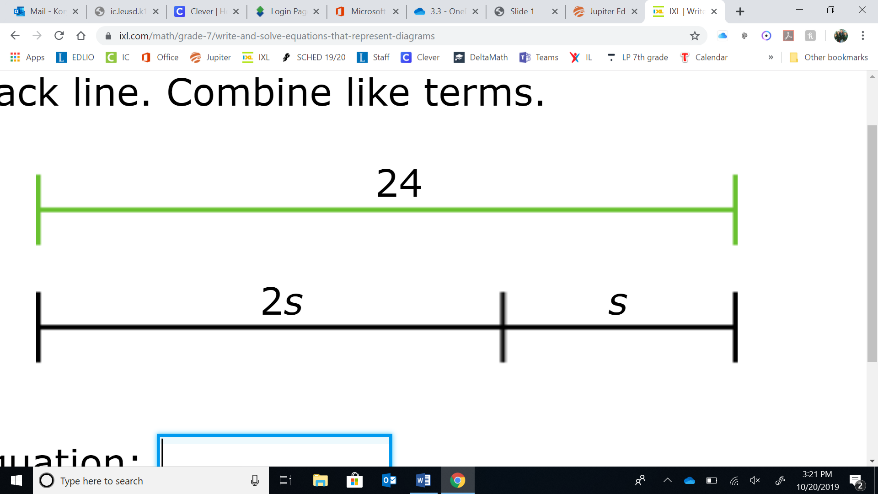


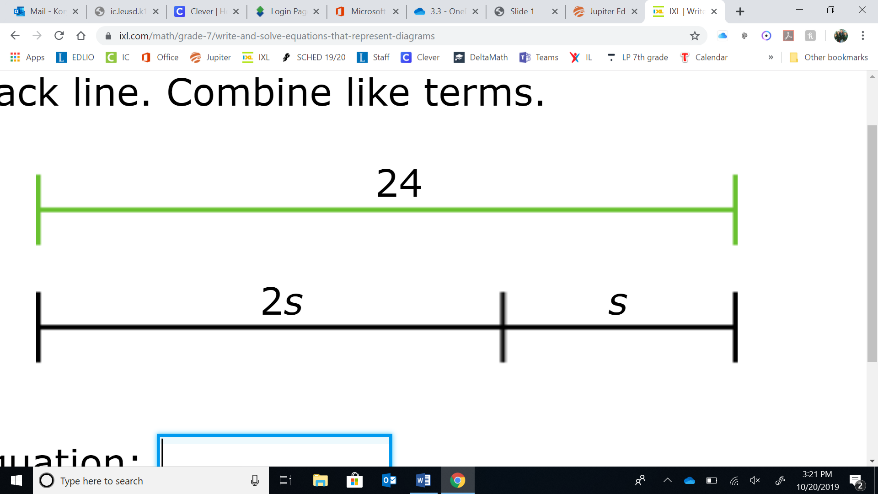
***LENGTH OF THE THICK LINE = LENGTH OF THE THIN LINE***

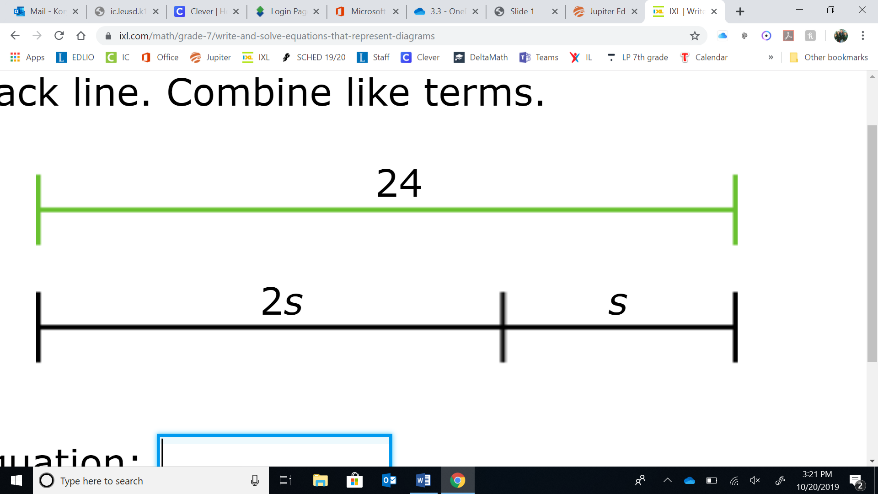
-The length of the **THICK** line =   
  
-The length of the THIN line is the **SUM of its segments**:

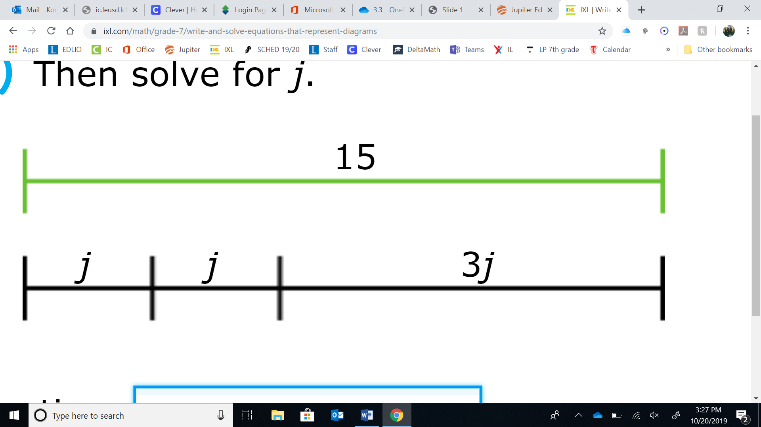
- The length of the THIN line =   
  
SO: LENGTH OF THE **THICK LINE** = LENGTH OF THE THIN LINE

=

**PRACTICE WRITING EQUATIONS:**



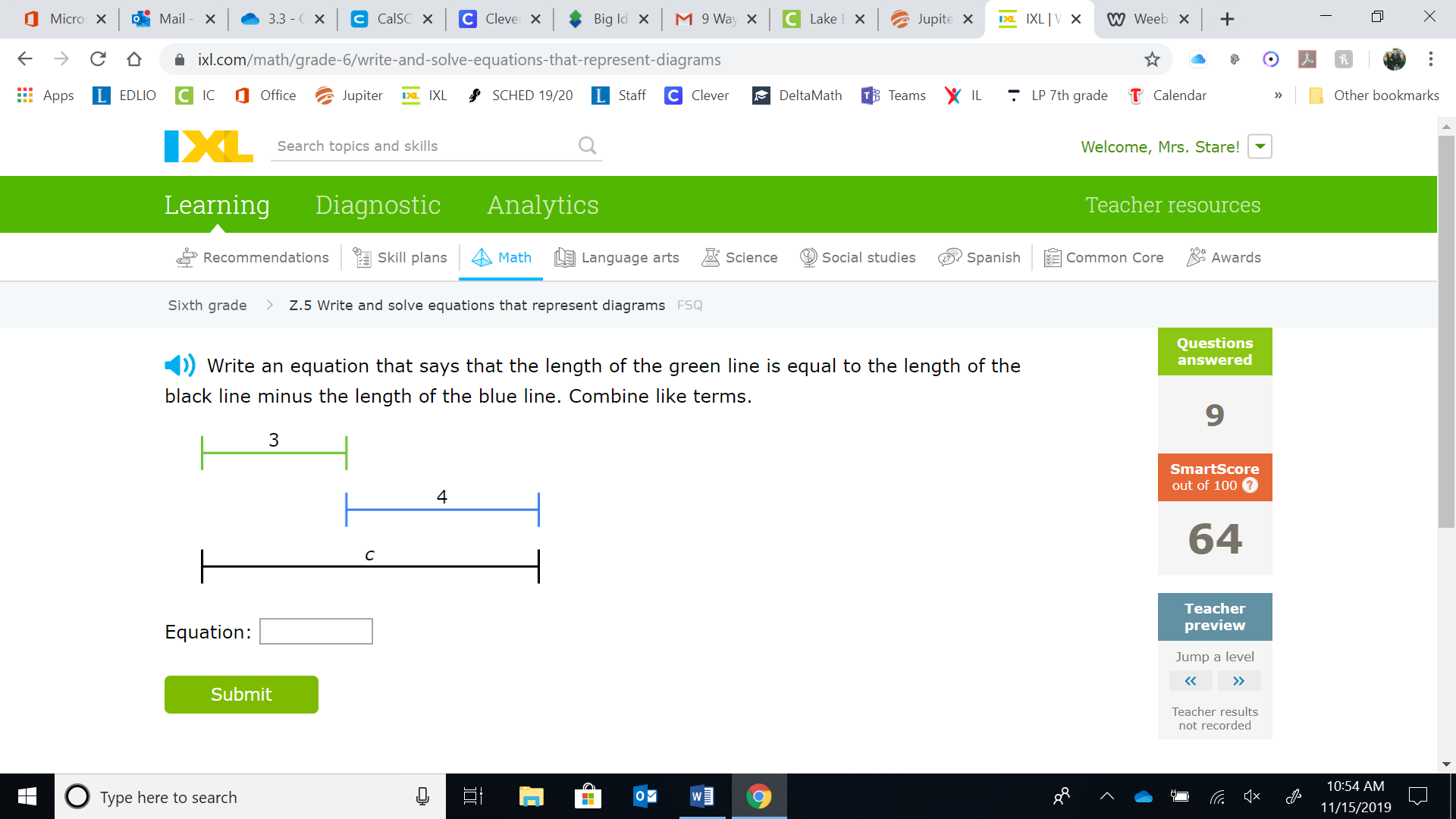


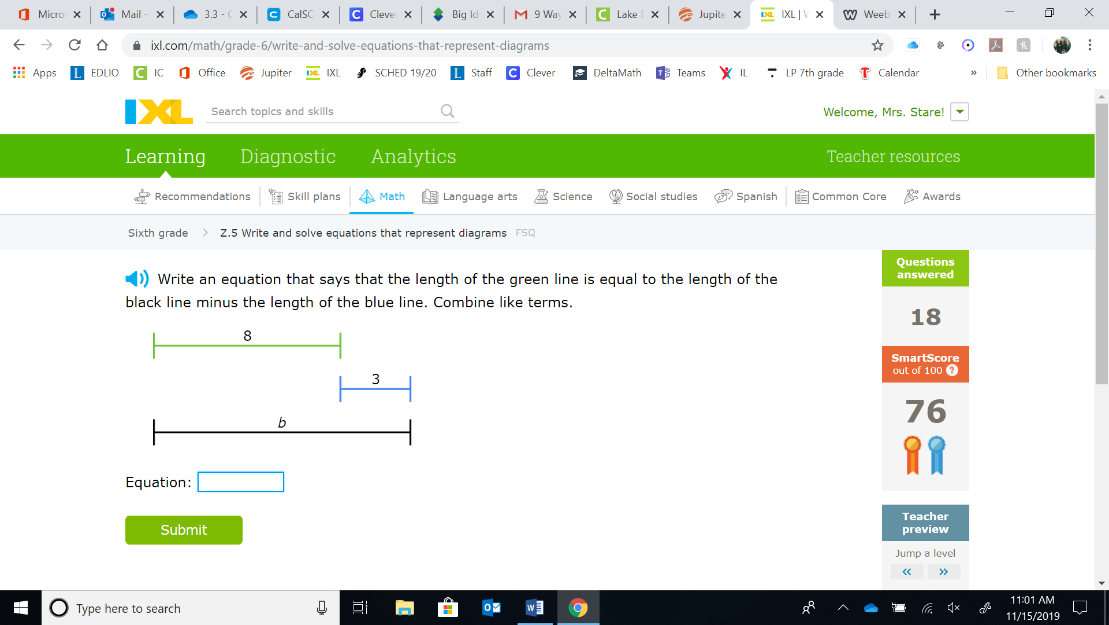


Write an equation that says that the length of the THICK line is equal to the length of the thin line MINUS the length of the dashed line (- - -).

**Combine Like Terms**

**THICK =** THIN **- DASHED**





**THICK =** THIN **- DASHED**

**SOLVING the EQUATION:**

Read the equation to yourself. Replace the VARIABLE with the phrase ‘What Number’? The answer is the NUMBER that makes the problem TRUE.

**20 = x + 7** \_\_\_\_\_\_\_ **is what number plus \_\_\_\_\_\_?**

The number that makes this problem true is

**24 = 3s \_\_\_\_\_\_\_ is \_\_\_\_\_ times what number?**

The number that makes this problem true is

**15 = 5j \_\_\_\_\_\_\_ is \_\_\_\_\_\_\_ times what number?**

The number that makes this problem true is

**3 = C - 4 \_\_\_\_\_\_\_ is what number minus \_\_\_\_\_\_?**

The number that makes this problem true is

**8 = B - 3 \_\_\_\_\_\_\_ is what number minus \_\_\_\_\_\_\_?**

The number that makes this problem true is