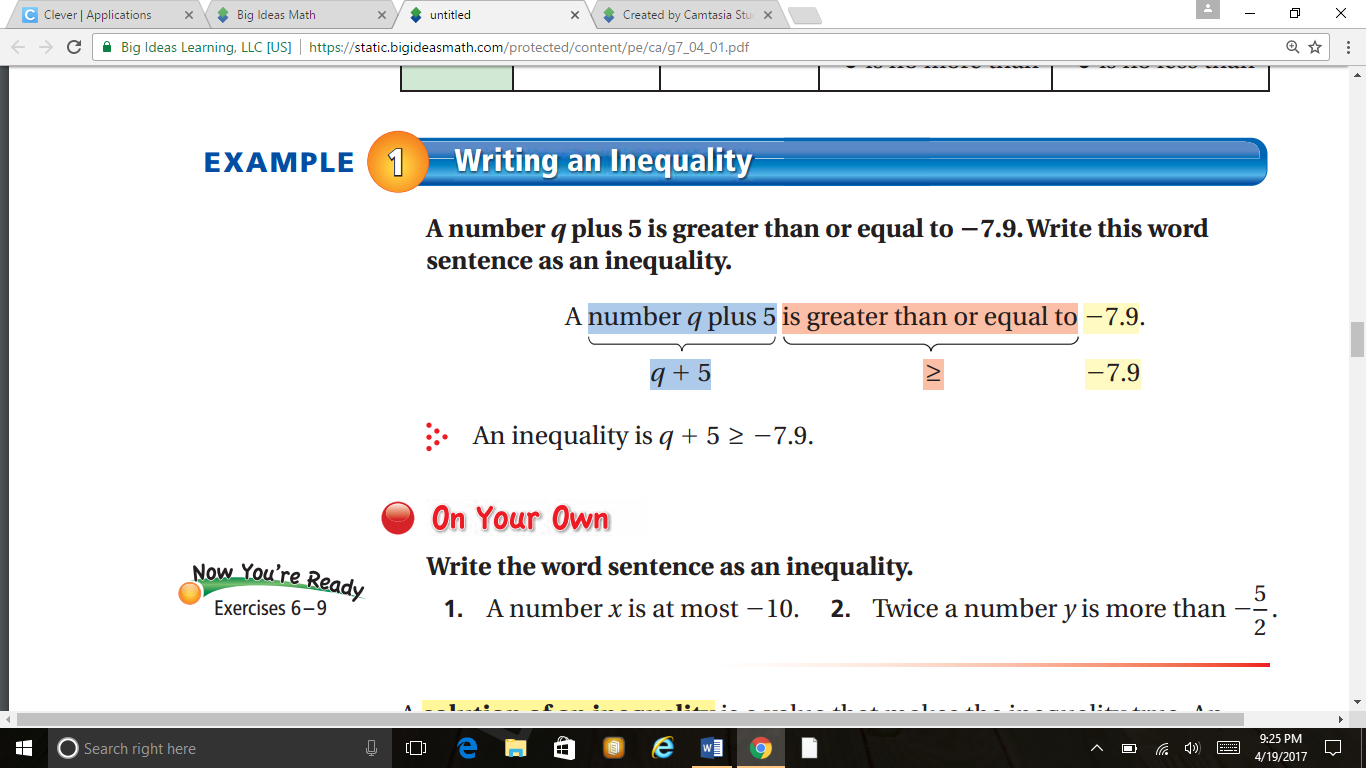
**4.1 Writing inequalities & Checking Solutions**

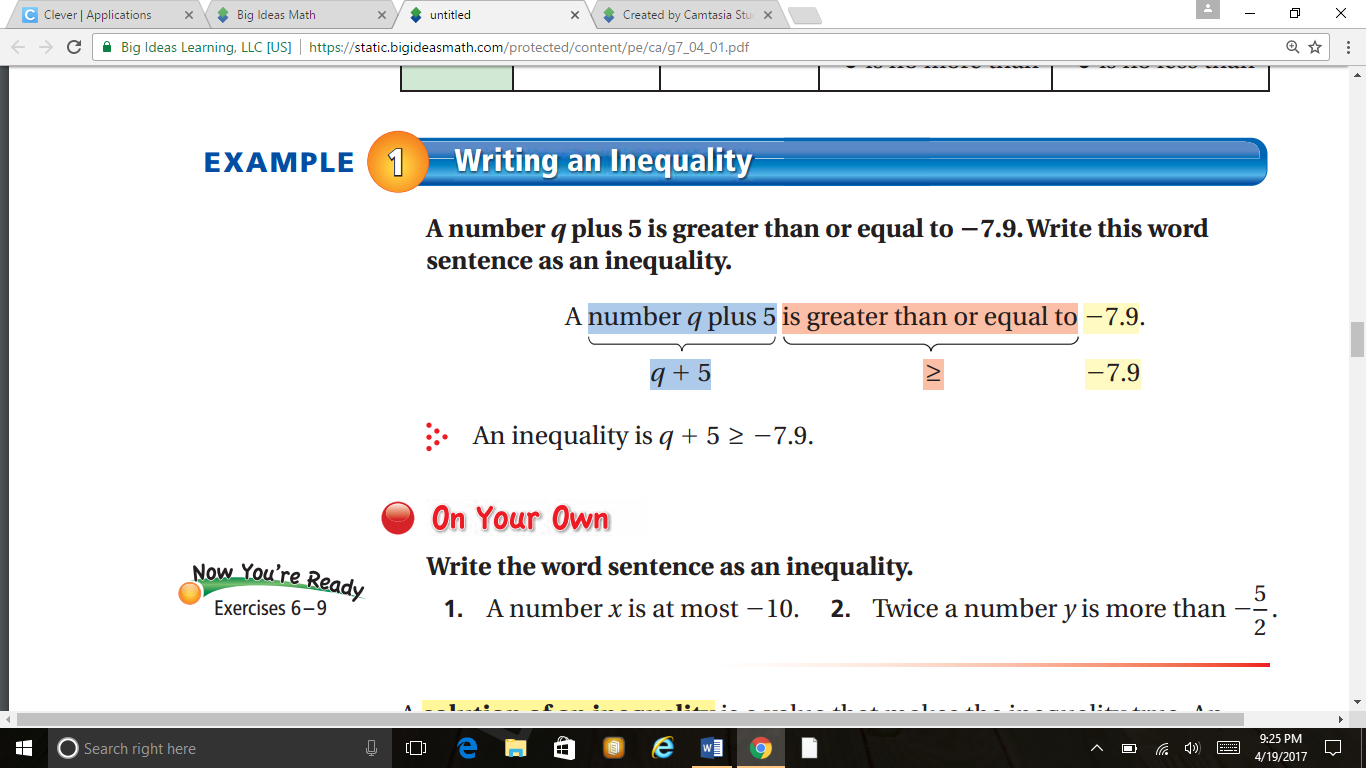
EQ: How can we use what we know about inequalities to write them and check solutions?

**Inequality:** a mathematical sentence that compares expressions. It contains the symbols <, >, ≤, or ≥ .

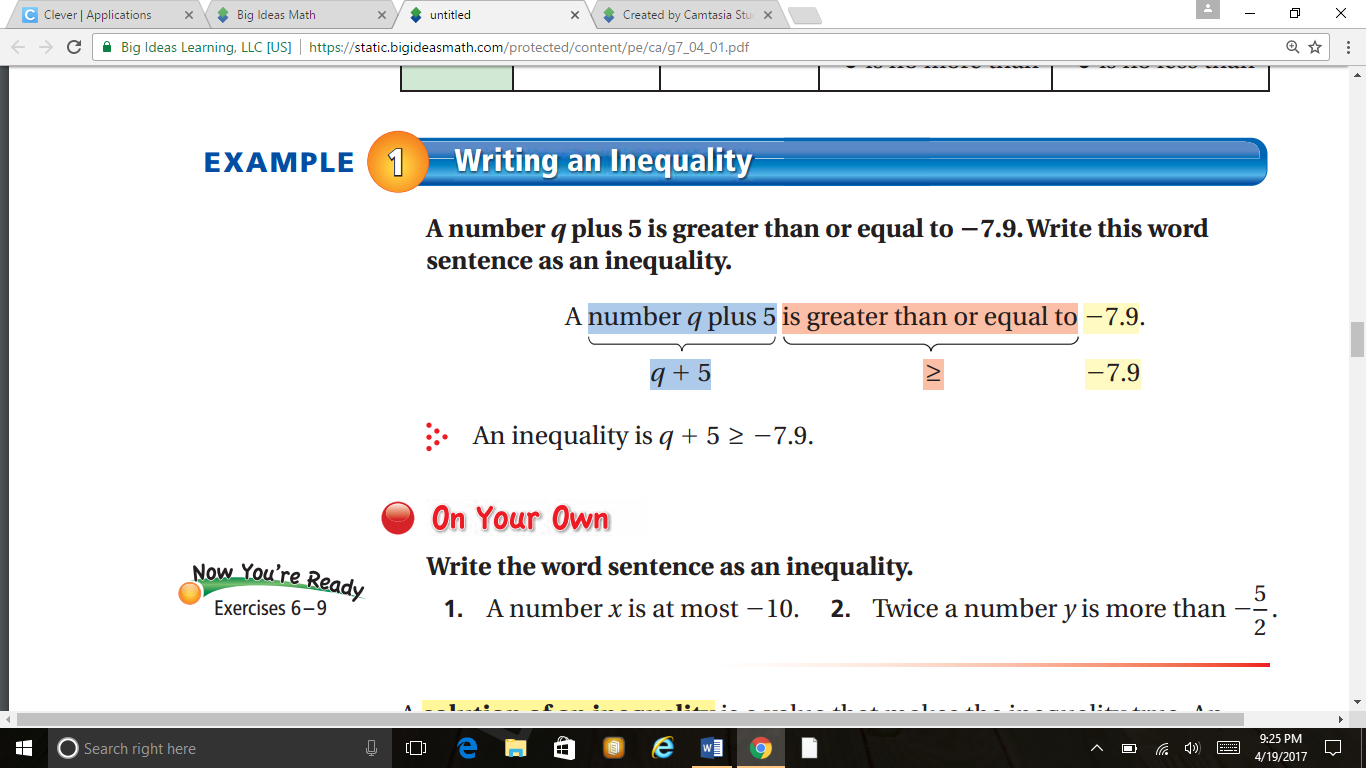


In order to **write an inequality**: look for these phrases to determine where to place the inequality symbol.

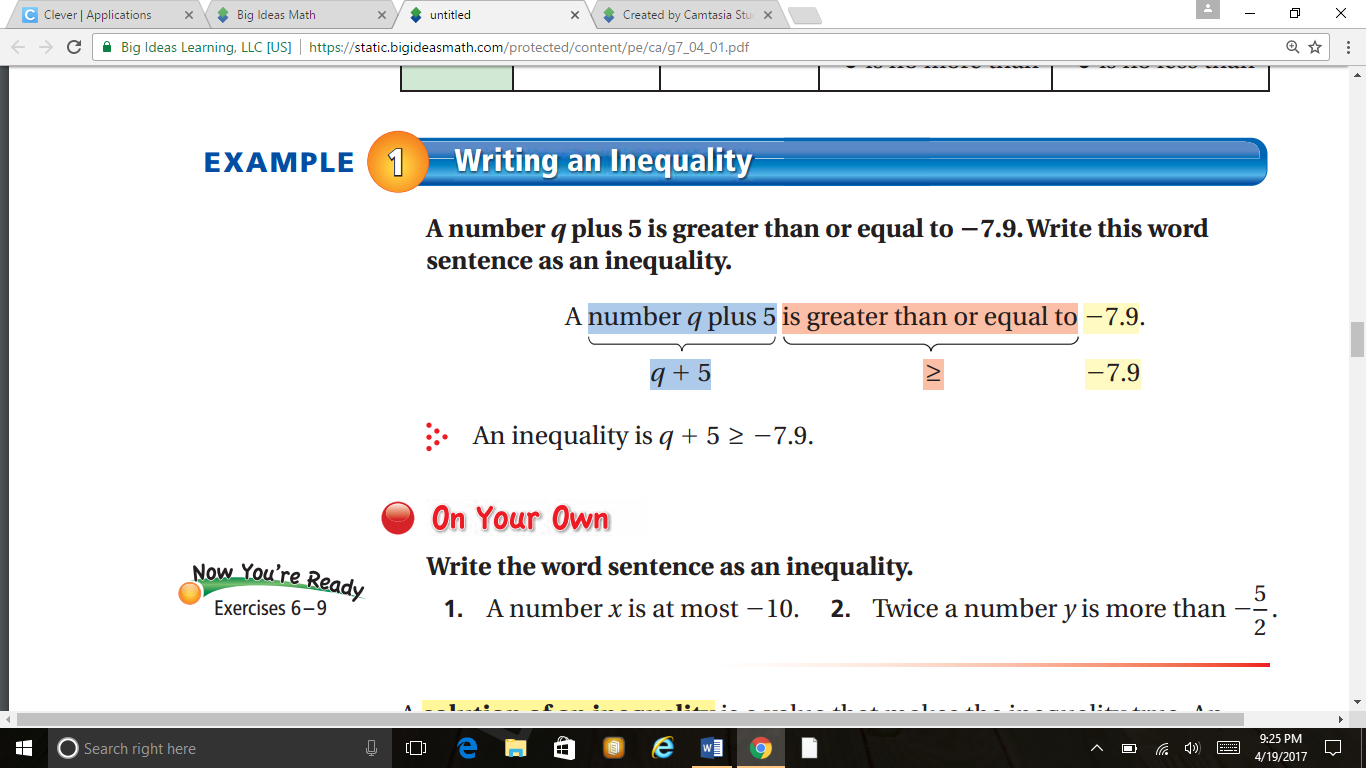
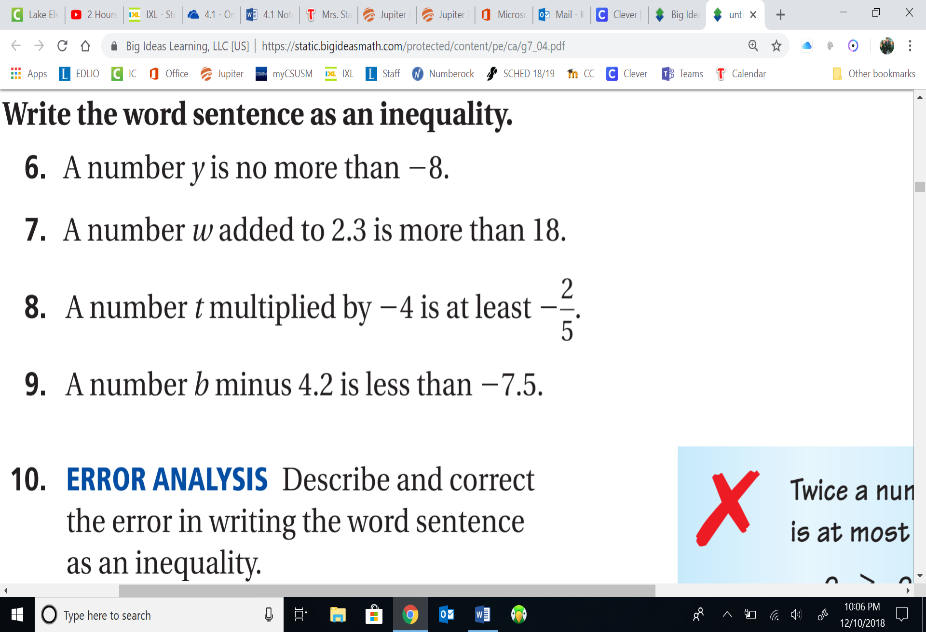
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Inequality Symbols** | | | | |
| **Symbol** | **<** | **>** | **<** | **>** |
| **Key Phrases** | * is less than * is fewer than | * is greater than * is more than | * is less than or equal to * is at most * is no more than | * is greater than or equal to * is at least * is no less than |

 A number q plus 5 is greater than or equal to -7.9.

**Write this** sentence as an **inequality**.

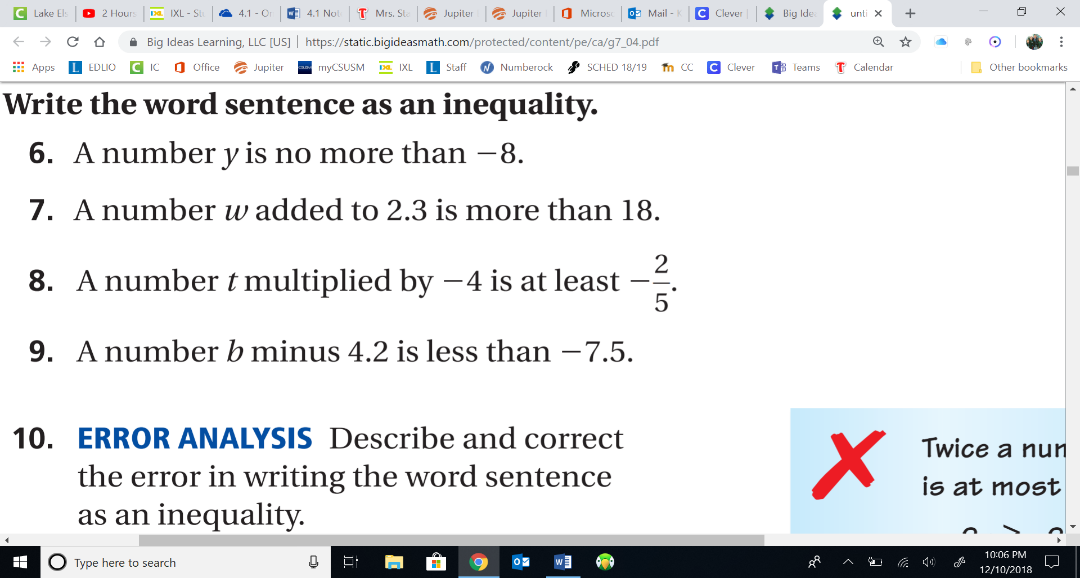


**PRACTICE** writing the following sentences as INEQUALITIES.



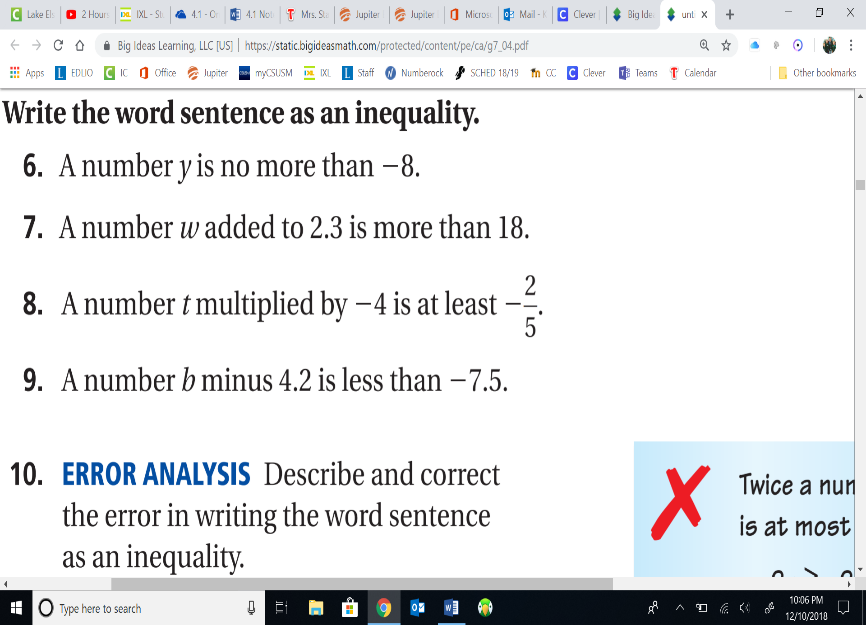
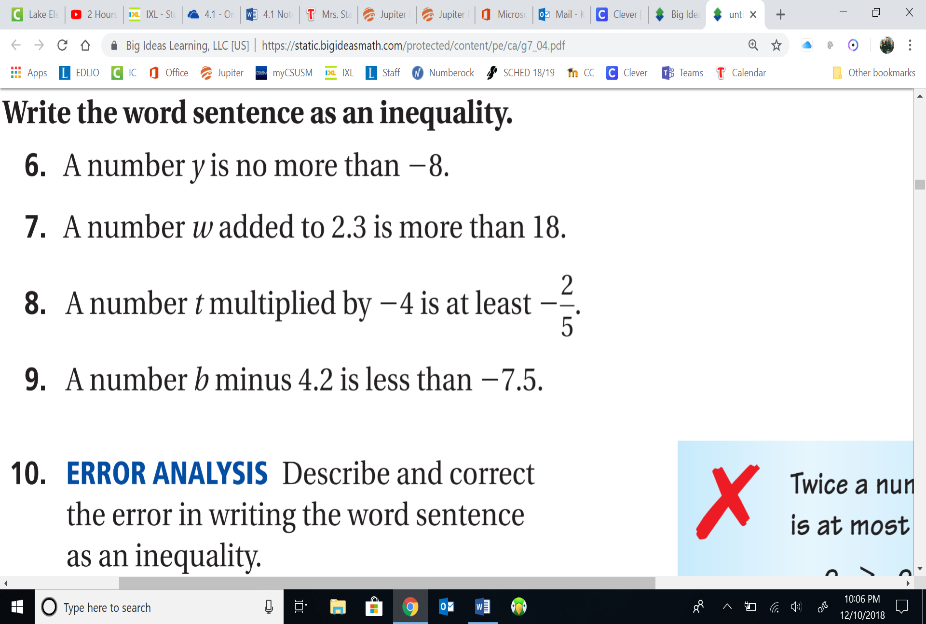
2y > -

X < -10

**3. 4.**

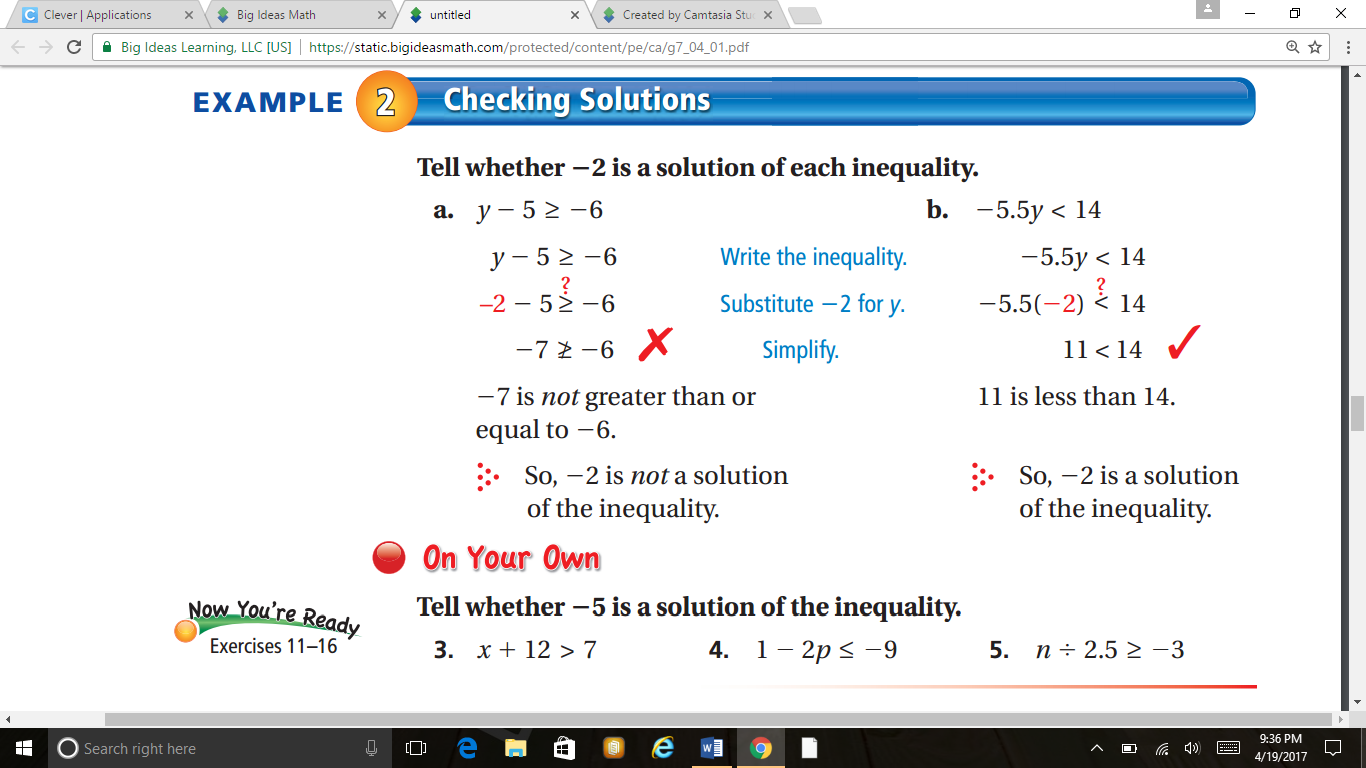
-4t > -

Y < - 8

**5. 6.**

b - 4.2 < - 7.5

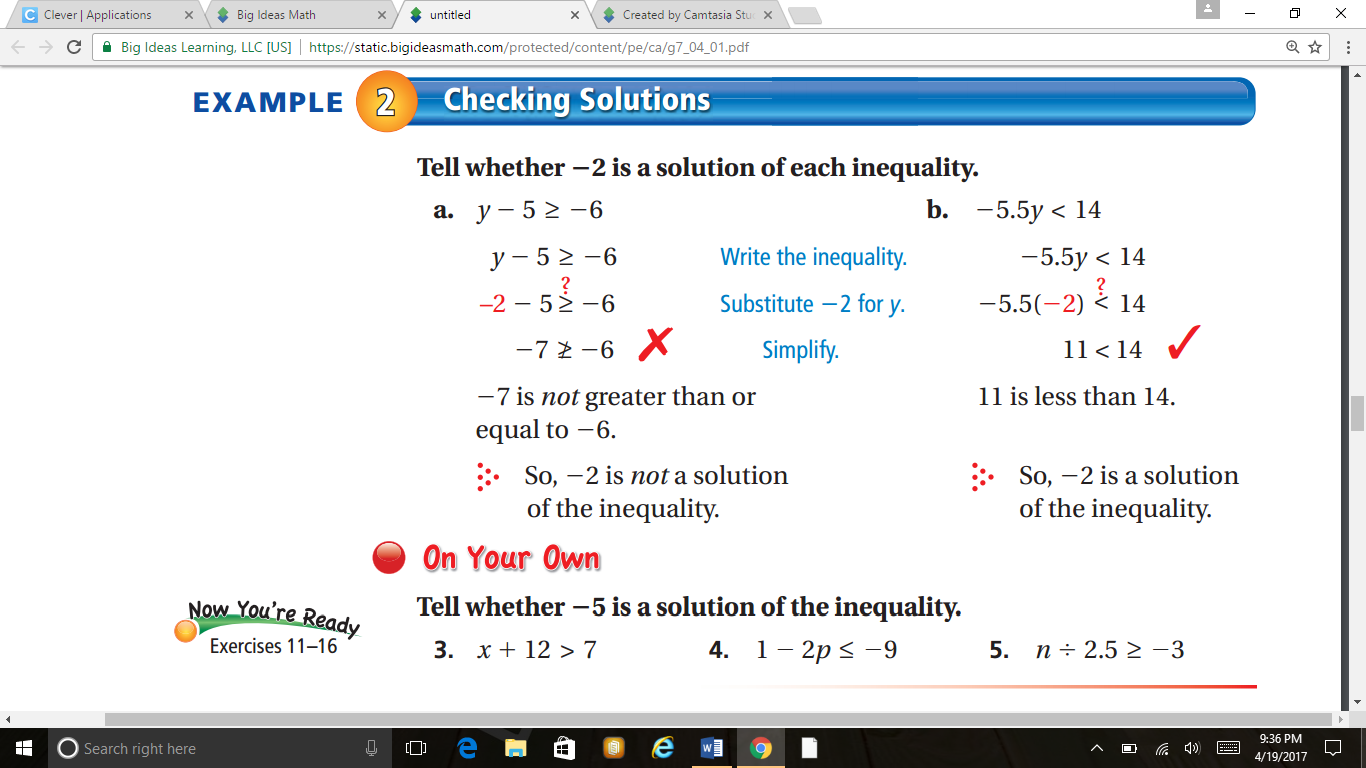
w + 2.3 > 18

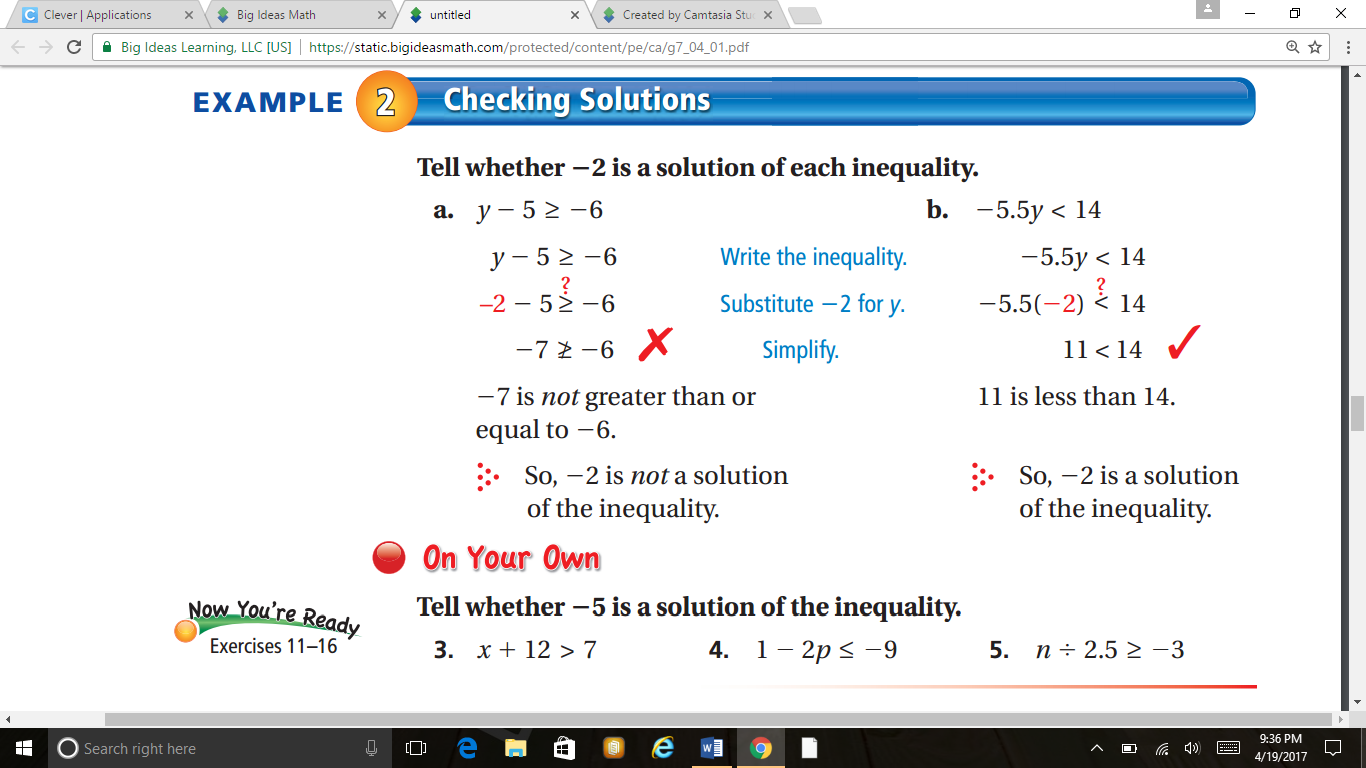


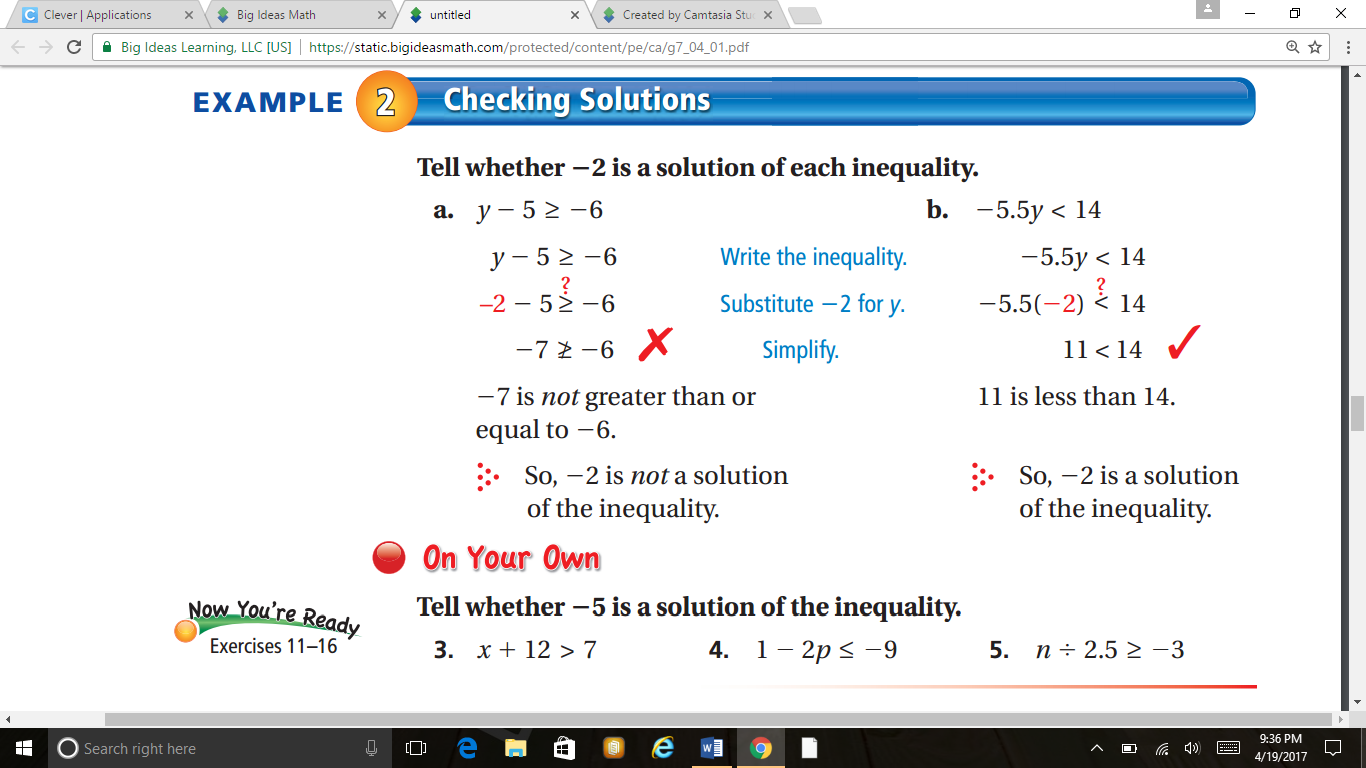
**A solution of an inequality**: a value that makes the inequality true.

**\*\*\***An inequality **can** *and usually will* have **more than one solution**.

**Solution Set**: The set of ***all solutions*** of an inequality.







-5 + 12 > 7 1 – 2(-5) < -9 -5 ÷ 2.5 > -3

7 > 7 1 + 10 < -9 -2 > -3

NOT TRUE, so not 11 < -9 This statement IS TRUE

a solution NOT TRUE, so NOT so, -5 IS a SOLUTION.

a solution

**4.1 Writing Inequalities and Checking Solutions**

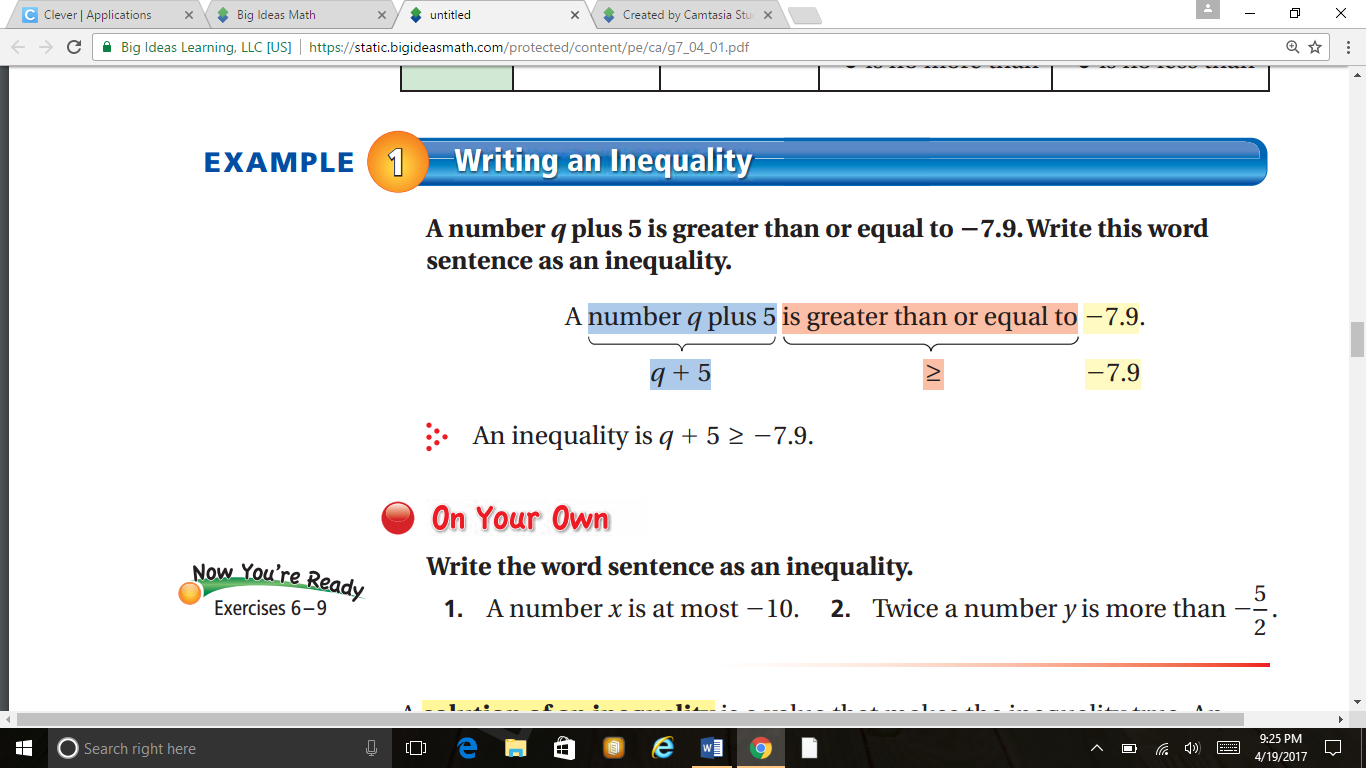
EQ: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**Inequality:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

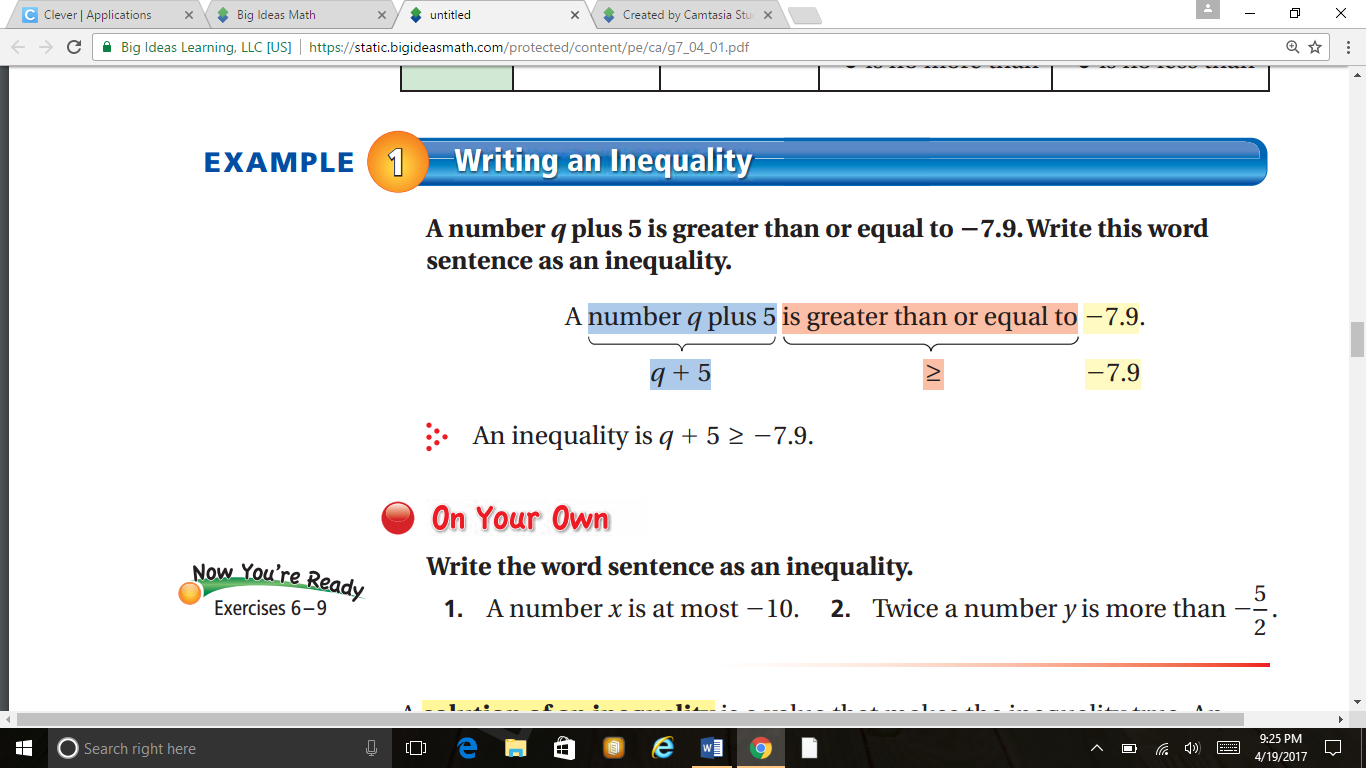
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



In order to **write an inequality**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

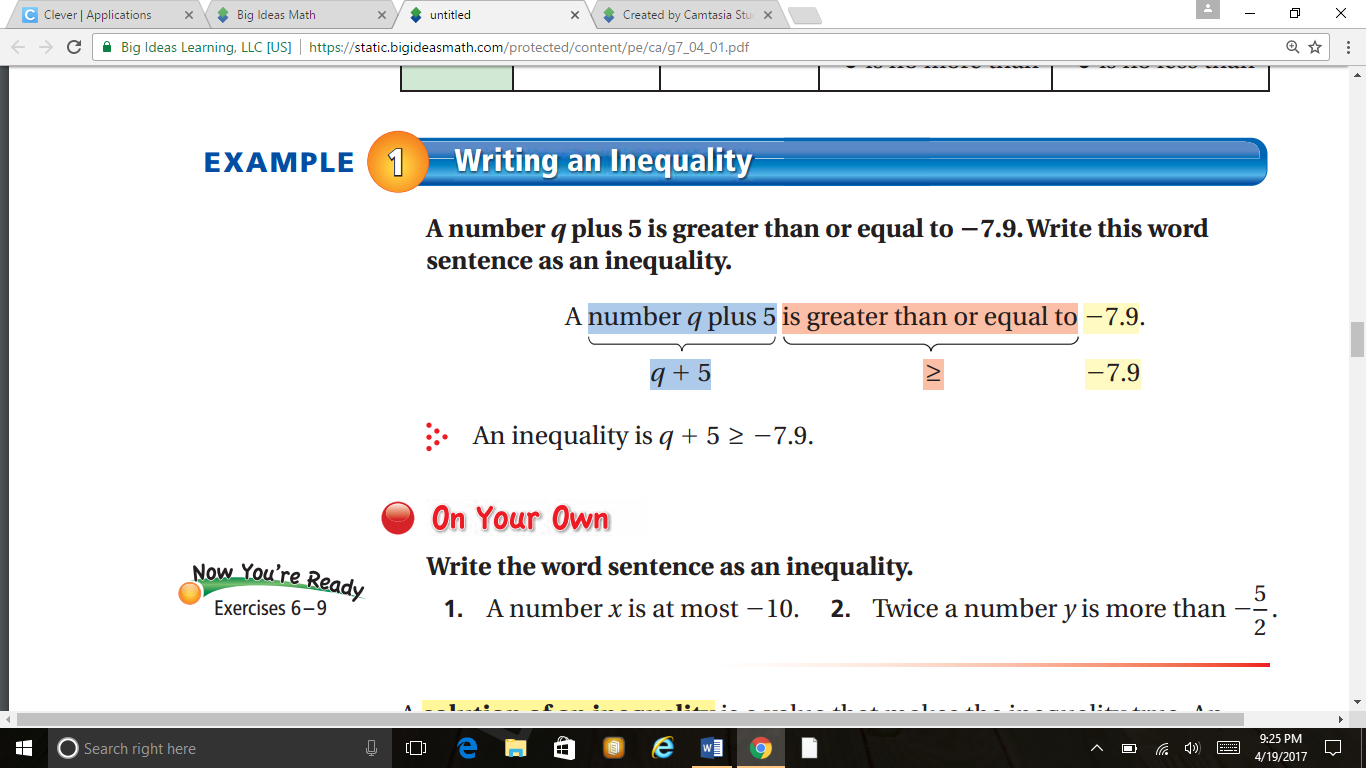
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Inequality Symbols** | | | | |
| **Symbol** | **<** | **>** | **<** | **>** |
| **Key Phrases** | * is less than * is fewer than | * is greater than * is more than | * is less than or equal to * is at most * is no more than | * is greater than or equal to * is at least * is no less than |

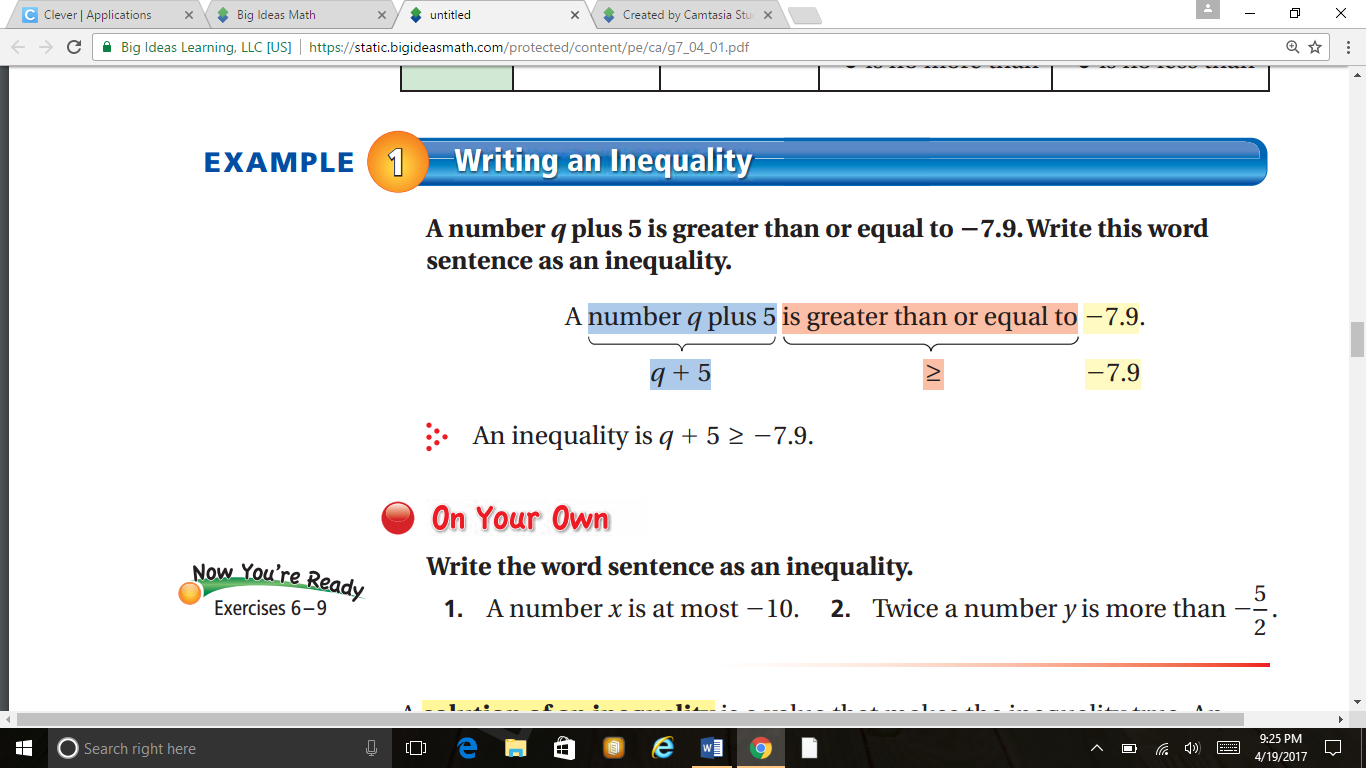
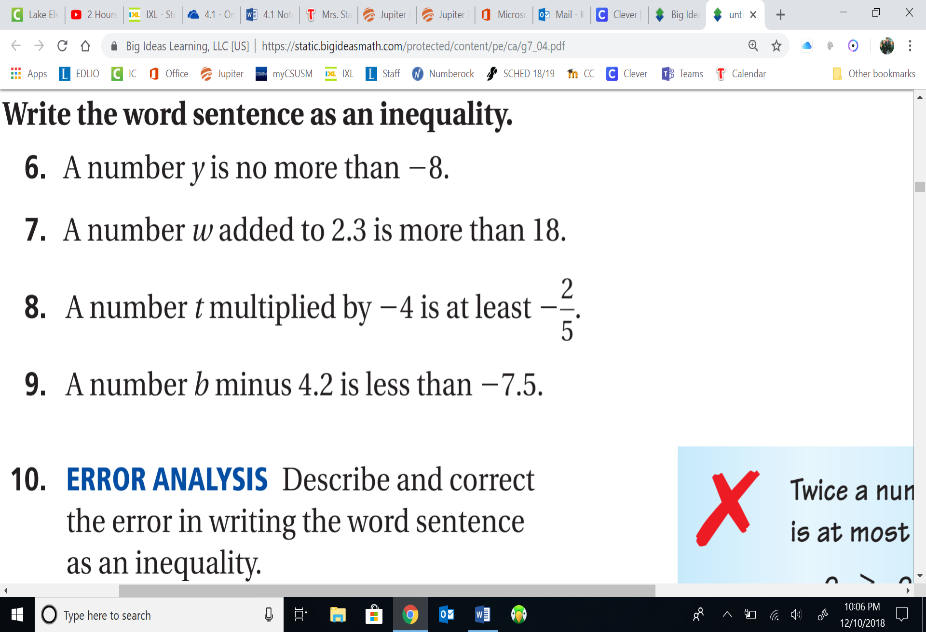
 A number q plus 5 is greater than or equal to -7.9

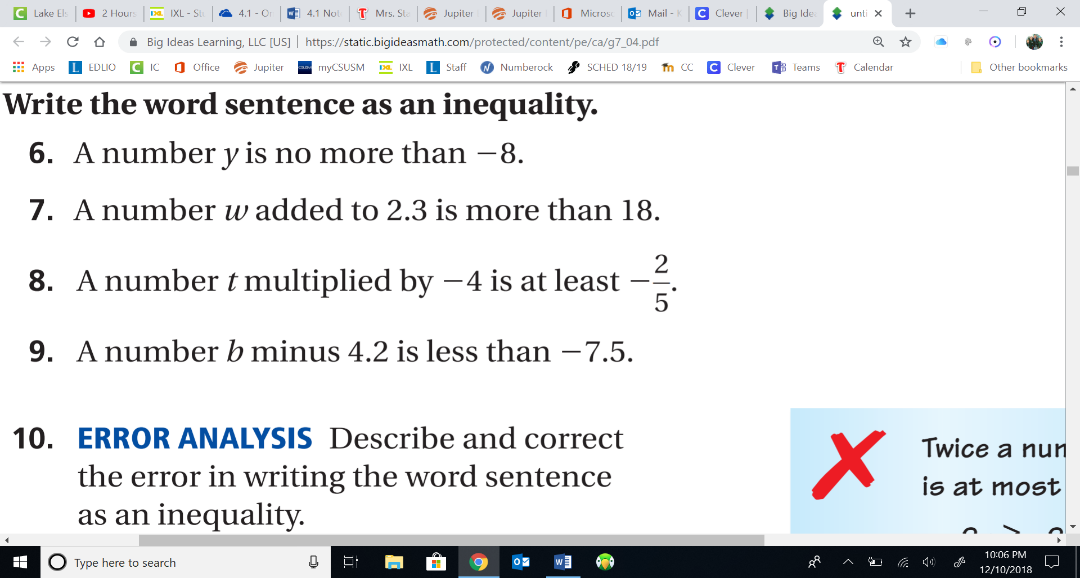
Write this sentence as an inequality.

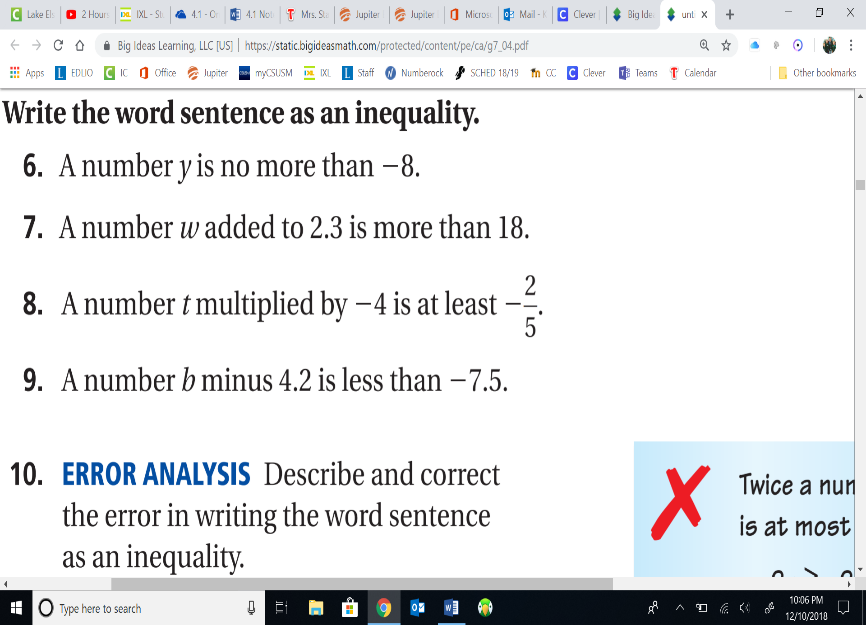
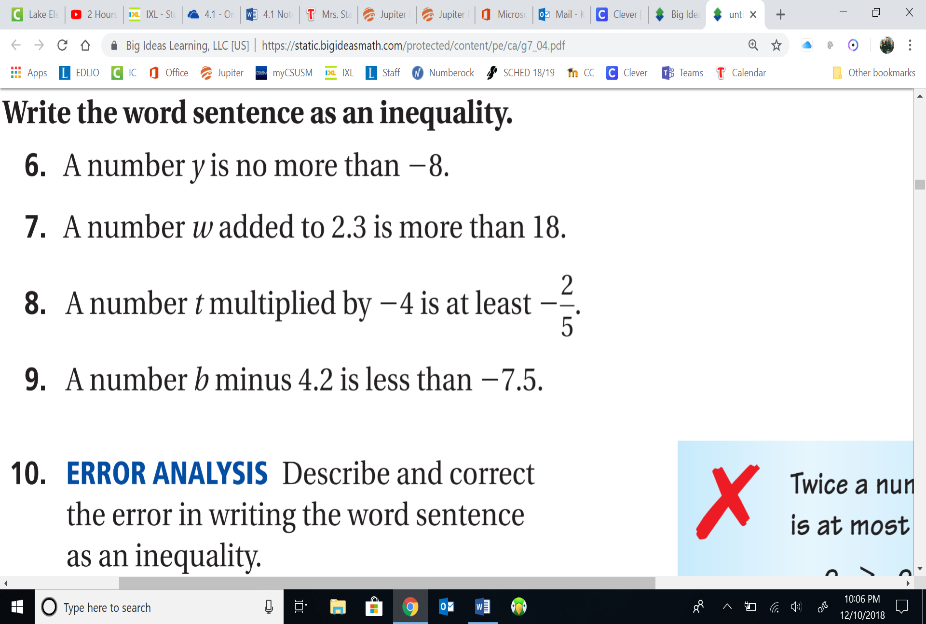
**A number *q* plus 5 is greater than or equal to -7.9.**

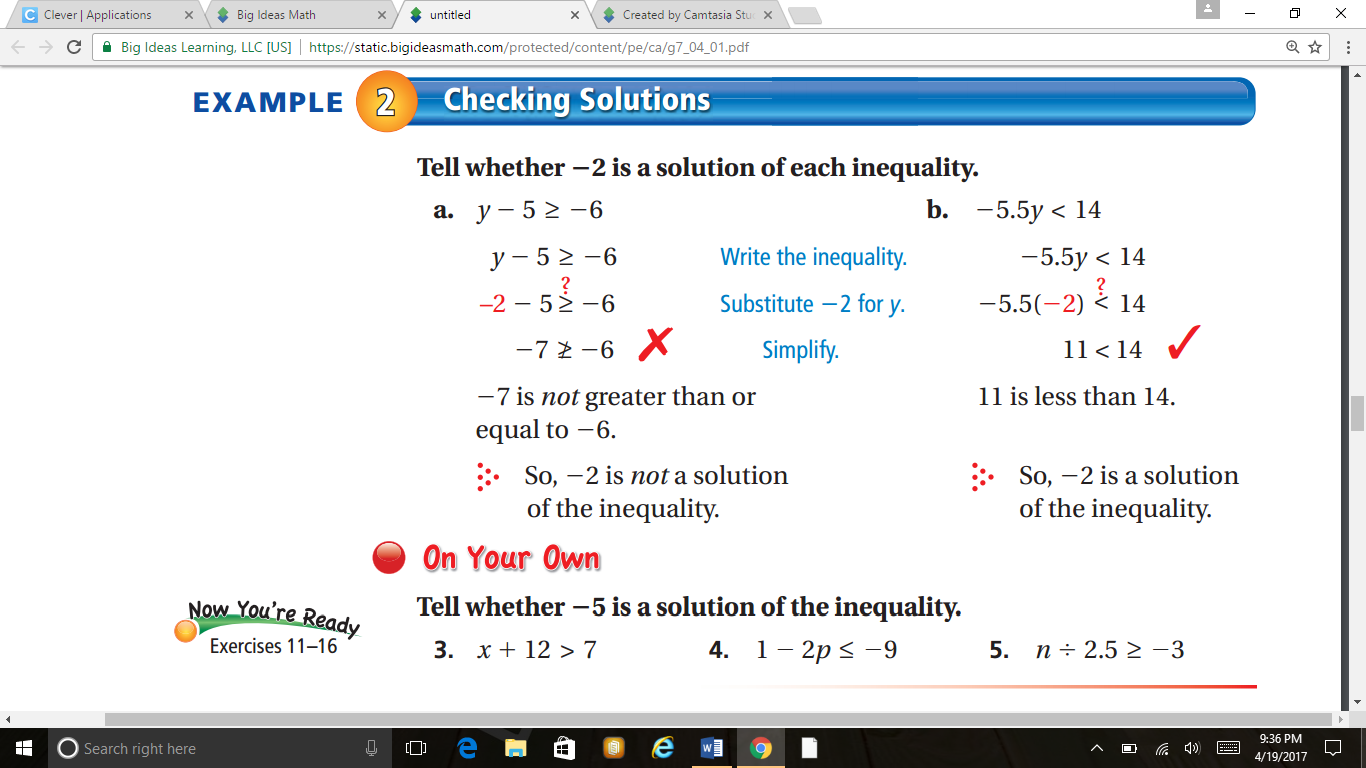


**PRACTICE** writing the following sentences as INEQUALITIES.



**3. 4.**

 **5. 6.**

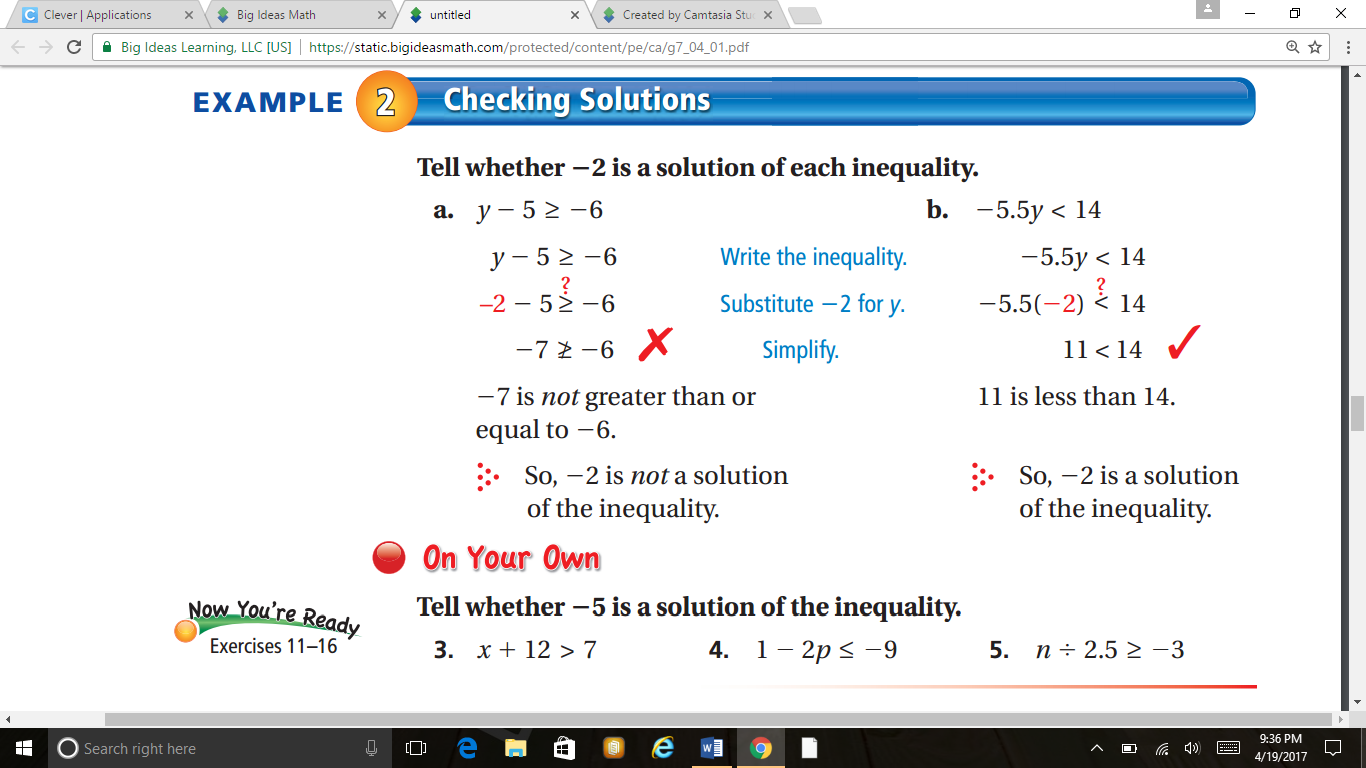


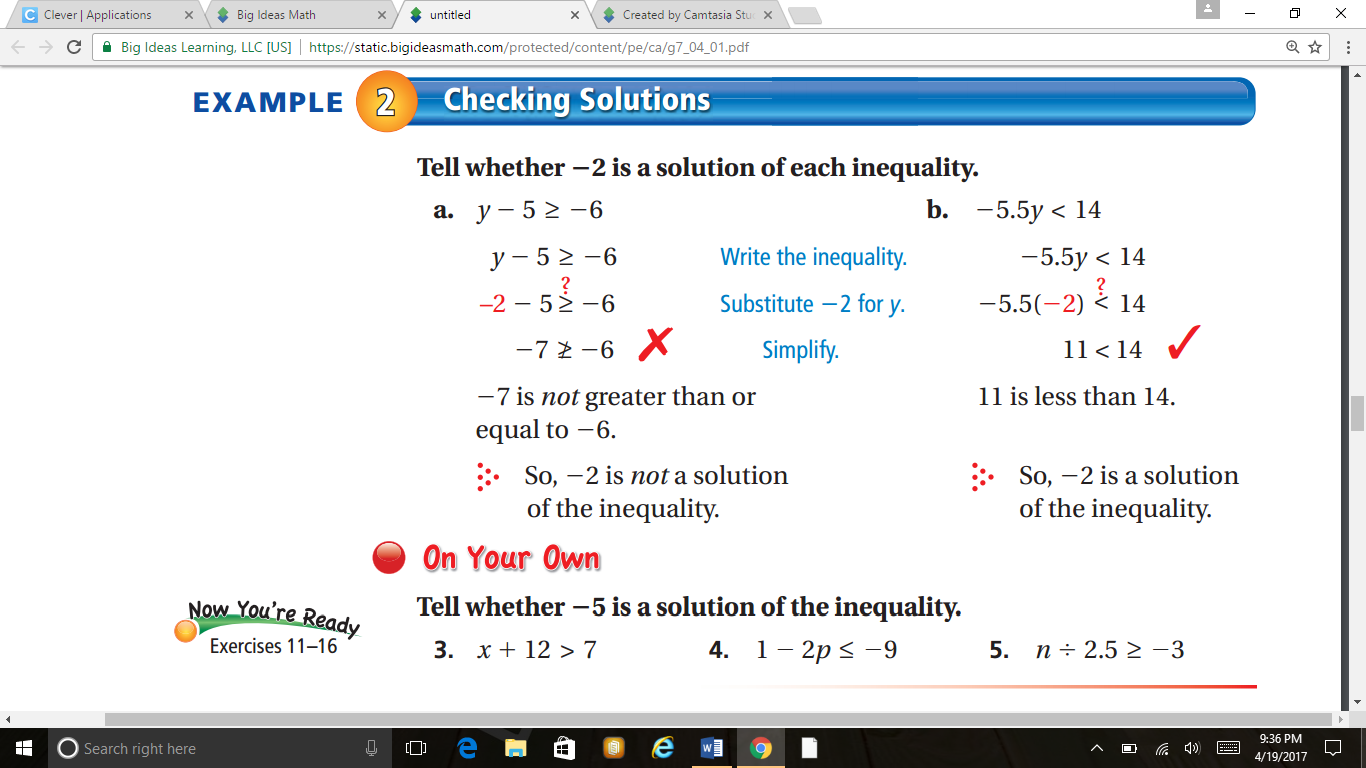
**A solution of an inequality**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

**\*\*\***An inequality **can** *and usually will* have **more than one solution**.

**Solution Set**: The set of ***\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_***of an inequality.





Substitute the given

value (-2) for ***y***

Simplify

