Purpose: A major problem in SAT Review problems is that 9th grade Algebra students were not clear if they could combine 10.435 - 2.001y to get 8.434y. This homework was to help build understanding about when variables can be combined and when they cannot.

Major Goals:

- If the variable is the same, things can be combined (added or subtracted).
    - 6Y + 4Y = 8Y 6x - 4x = 2x
- If the variable is not the same, things cannot be combined.
    - 6Y - 4x = 6Y - 4x 6x + 4Y = 6x + 4Y
- Numbers cannot be added or subtracted from variables.
    - 10 + 8Y = 10 + 8Y 10 - 2x = 10 - 2x

Mini-unit cycle:

1. Assign the Red circle / blue square / 1s document as homework.
2. Assign the apple / lemon / orange document as homework.
3. Have students peer review the apple / lemon / orange picture. In the peer review, students who have not done the homework need to write down the snapshots the person they are reviewing got.
4. In small groups have students compare and contrast the apple / lemon / orange picture with:

$$X + 2.0001Y = 10.435$$

Solve for X

5. Each small group will make a Venn diagram of how the apple / lemon / orange picture & example problem are similar and different.
6. The teacher will pull an exemplary Venn diagram with the class and help kids reach the Major Goals listed above...if the major goals aren't on the Venn diagram.

Watch to see if students clarify their understanding of combining numbers and variables in their SAT Do Now work. If not, assign only those students who still show this misconception the next homework. Other students get a night off.