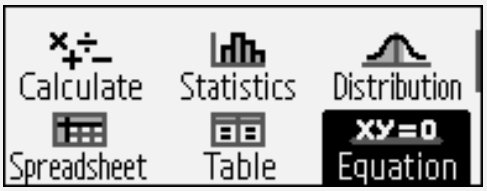
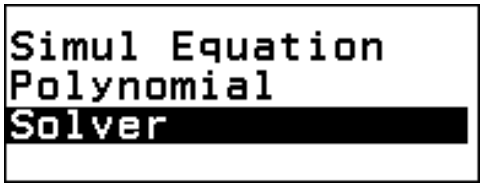
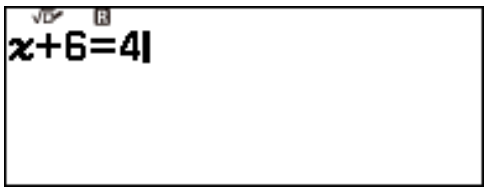
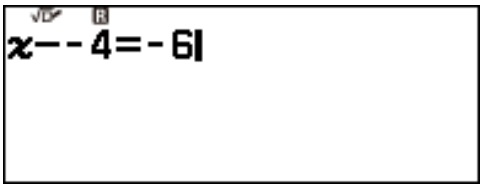
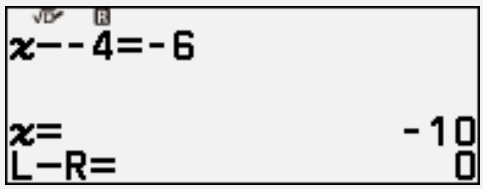
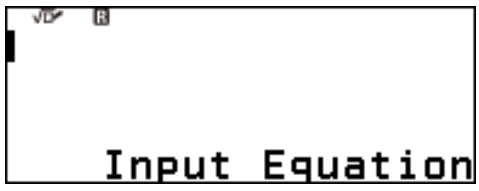
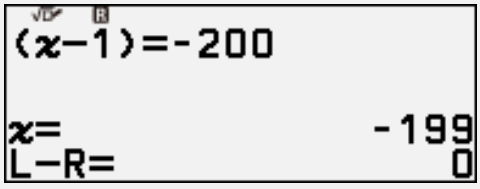
Unit 6: Lesson 9 – Dealing with Negative Numbers

Activity 9.2: Old and New Ways to Solve

Skill: Use the Equation app to check solutions from solving equations algebraically

Activity Summary:
This activity has students solve four equations involving negative numbers using methods from prior lessons in the unit. Each equation can be solved using the "What value would make it true?" or "Doing the same thing to both side" approach. After solving the equations using either method, the Equation app on the calculator can be used to check their answers.

1. This task will utilize the **Equation app** to quickly **check answers** to equations solved algebraically. Press ⌂ **– Home** and then use the **arrow keys** to highlight the **Equation app**.	
2. Press either OK or EXE to select. Press either the **scroll down button**, ⌄⌄, or press the **up arrow**, ∧, to highlight **Solver**.	
3. Press either OK or EXE to select.	
4. To check the first equation, $x + 6 = 4$, type x ⊕ 6 ⬆ (4. (The key combination of ⬆ (gives the equal sign, =.)	
5. Press either OK or EXE to enter. **The initial value** is used as a **starting point** for equations with **multiple solutions**. Since these **linear equations** have just **one solution**, press the **down arrow**, ⌄, to highlight **Execute**.	

6. Press either [OK] or [EXE] to **solve the equation**. $x = -2$ is the **solution** to the first equation.	
7. Press either [OK] or [EXE] to return to the **equation entry** window. Use the **backspace key**, [⌫], to back over the prior equation to prepare to enter the next equation in this task, $x - (-4) = -6$.	
8. Finish entering this equation by typing [(−)] [(−)] [4] [)] [=] [(−)] [6] on the **keypad**. ([(−)] is used to enter the **negative sign**.)	
9. Press either [OK] or [EXE] to enter. Press the **down arrow**, [▼], to highlight **Execute** and then press either [OK] or [EXE] to **solve** this equation. The **solution** for the second equation is $x = -10$.	
10. Press either [OK] or [EXE] to return to the **equation entry** window. Use the **backspace key**, [⌫], to back over the prior equation to prepare to enter the next equation in this task, $2(x - 1) = -200$.	
11. Enter the **third equation** by typing [2] [(] [x] [(−)] [1] [)] [=] [(] [=] [(−)] [2] [0] [0] on the **keypad**. Press either [OK] or [EXE] to enter. Press the **down arrow**, [▼], to highlight **Execute** and then press either [OK] or [EXE] to **solve** this equation. The **solution** for the third equation is $x = -199$.	
12. Using the last two steps above, the **fourth equation**, $2x + (-3) = -23$, can be found to have the solution of $x = -10$.