## IM® v.360: Casio Technology Instructions Grade 8 – Unit 4: Linear Equations and Linear Systems



## **Unit 4: Lesson 6 – Strategic Solving**

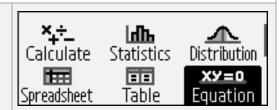
Activity 6.3: Which Would You Rather Solve?

Skill: Use the Equation app to check your solution to an equation solved algebraically.

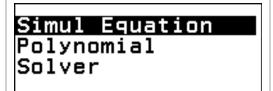
## **Activity Summary:**

Students need to know how to solve a variety of linear equations algebraically. Students are given a list of equations and asked to choose 3 that are the least difficult to solve, and 3 that are the most difficult to solve. They choose 3 equations to solve; at least one from the least difficult list and one from the most difficult list. Students can check their answers using the Equation app on the calculator.

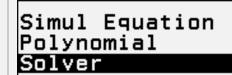
Turn on the calculator with the - On button. Press - Home and then use the arrows to highlight the Equation app.



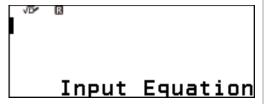
2. Press either **(R)** or **(R)** to open the **Equation app**. Simul Equation will solve systems of equations. Polynomial will solve 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> degree polynomial equations for all real and imaginary solutions.



3. We will use the **Solver** to check solutions to the equations solved in this activity. Press the **down arrow**, ⊙, twice to highlight **Solver**.



4. Press either **(a)** or **(a)** to open the **equation** solver.



5. Now **enter the equation** to check. It will be easier to replace any **variable** with ② as the other letter choices are limited. (A-F, x-z)

$$-\frac{5}{6}(8+5x)=75+\frac{5}{3}x$$

**Keystrokes for Equation A:** 



- 6. Once you have finished entering the equation, press either (9) or (9).
- Enter Initial
  Value

  Enter Initial
  OExecute
- 7. Enter a starting value, and press either **(N)** or **(N)** or **(N)** if you are solving an equation with multiple answers, the initial value will matter.)
- Enter Initial
  Value

  2 =0
  OExecute
- 8. Press either (a) or (a) to solve the equation. The **solution** for Equation A is **b = -14**.

$$-\frac{5}{6}(8+5x)=75+\frac{5}{3}x$$
  
 $x=$  -14  
L-R= 0

- 9. To solve a different equation, the easiest way is to press the **Home key** (a) and select the **Equation app** again. Another way is to press the **Back key** (b) to go back to the **Input Equation** window.
- Input Equation
- 10. Repeat the steps above for the other equations. The calculator will solve equations using any of the available variables. For example, for Equation F the variable "C" (♠ ⑥) can be used instead of using the variable x. The solution to Equation F is c = 0.