



Problem 1 – Solving with substitution

Open the TI-Nspire document and view the given one-step equations on page 1.2. Then on page 1.4, guess the value of x that will make the equation true by entering values in Column A.

- What is the solution to the equation?
- Try solving another equation. What is the solution to the equation on page 1.5?
- Solve each equation given on page 1.6 using substitution. Record the solutions below.

Problem 2 – Solving with nSolve

The **nSolve** command can solve equations. To solve $t + 7 = 2$, type **nSolve($t+7=2,t$)**, where the first parameter is the equation and the second parameter is the variable.

- Move to page 2.1. Use **nSolve** on the *Calculator* application to solve the equation. What is the solution?
- Solve each equation given on page 2.2 using **nSolve**. Record the solutions below.
- Write three equations that use addition. Then on page 2.3 solve them using **nSolve**. Record your equations and the solution to each below.

Problem 3 – Looking for a pattern

Look for a pattern in the equations you solved and their solutions.

- The solution to $x + 3 = 8$ is $x = 5$. What operation can you perform with 8 and 3 to get 5?
- Try this pattern on the other equations and solutions. Does it work? Give an example.
- You can use the **Subtraction Property of Equality** to solve equations with addition. On page 3.4, replace the black boxes to solve each equation. Record the solutions below.



Problem 4 – Other operations

You have found that you can solve an addition equation by subtracting from both sides, because subtraction “undoes” addition.

- Do you think that there is an operation that “undoes” an equation with multiplication? If so, which operation?
- Solve each equation given on page 4.2 using **nSolve**. Record the solutions below.

Look for a pattern in the equations you solved and their solutions.

- The solution to $5g = 75$ is $g = 15$. What operation can you perform with 5 and 75 to get 15?
- Try this pattern on the other equations and solutions. Does it work? Give an example.
- You can use the **Division Property of Equality** to solve equations with multiplication. On pages 4.6 and 4.7, replace the black boxes to solve each equation. Record the solutions below.

You have found that subtraction undoes addition, and division undoes multiplication. When one operation undoes another, they are called **inverse operations**.

To undo addition, use subtraction. To undo subtraction, use addition.

- To undo multiplication, use _____.
- To undo division, use _____.
- Write a rule to solve any one-step equation.