

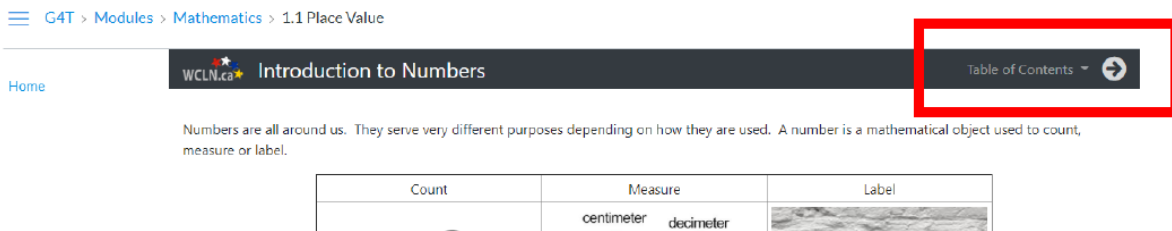
Grade 6 Mathematics
Week of November 30 – December 4

Lesson 3.4: Equation Solving

Lesson Materials

- Lesson for Section [3.4 Equation Solving](#)
- Equations Learning Guide (This PDF)

Use the link above to open the lessons for this section. Remember: on the lesson page, use the arrow next to the “Table of Contents” at the **top of the page** to move through the lessons. You can also click on the Table of Contents to open the menu so you can jump to a specific lesson page.



Work through the online lessons. You can work at your own pace or follow the suggested schedule below. Complete the activities in your Learning Guide as you work through the lessons. You can print the Learning Guide, or, copy out the questions on a separate piece of paper. Be sure to try the games and practice quizzes as you make your way through the online lesson book.

Suggested Lesson Schedule

<p>Monday</p> <ul style="list-style-type: none">• Solving Equations• Equation or Expression?• LG #1-2, p. 6 <p>Tuesday</p> <ul style="list-style-type: none">• Making Equations• Inverse Operations• Addition and Subtraction• Practice #1• LG #3-4, p. 7 <p>Wednesday</p> <ul style="list-style-type: none">• Multiplication• Practice #2• LG #5, p. 8	<p>Thursday</p> <ul style="list-style-type: none">• Division• Practice #3• Summary• LG #6, p. 8 <p>Friday</p> <ul style="list-style-type: none">• Visualize with Tiles• Solve with Tiles• Visualize with Scale• LG #7-8, p. 9
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3.4 EQUATION SOLVING

1. Decide if each statement is true only of expressions (EXP), only of equations (EQU), or true of both equations and expressions (BOTH). Circle the correct answer.

- | | | | |
|--|-----|-----|------|
| a. Contains an equal sign. | EXP | EQU | BOTH |
| b. Can contain variables such as x , n , and t . | EXP | EQU | BOTH |
| c. Does not contain an equal sign. | EXP | EQU | BOTH |
| d. Can contain integers. | EXP | EQU | BOTH |
| e. Can use any mathematical operation, such as $+$, $-$, \times , \div . | EXP | EQU | BOTH |
| f. Can be solved. | EXP | EQU | BOTH |
| g. Can only be evaluated if given the value of the variable. | EXP | EQU | BOTH |

2. Find the **opposite** mathematical operation of the operation in each equation. *Hint: You need to be able to identify the **opposite** of an operation in order to solve equations.*

Ex.

$\frac{n}{7} = 14$
+ - × ÷

 $\frac{n}{7}$ is a division.
 The opposite of
 \div is \times .

c.

$w \div 12 = 8$
+ - × ÷

a.

$x + 9 = 33$
+ - × ÷

d.

$r - 41 = 9$
+ - × ÷

b.

$15m = 135$
+ - × ÷

e.

$\frac{z}{6} = 11$
+ - × ÷

3. A student worked at solving the following equations. Determine whether they reached the correct answer or not by checking their work. *Reminder: To check the solution to an equation, plug the solution back into the problem and evaluate.*

Ex. $d - 16 = 51$

Student answer: $d = 68$

$() - 16 = 51$

$(68) - 16 = 51$

$52 \neq 51$

The answer is incorrect.

a. $x - 23 = 38$

Student answer: $x = 61$

c. $m + 15 = 57$

Student answer: $m = 42$

d. $5t = 46$

Student answer: $t = 9$

b. $q + 20 = 93$

Student answer: $q = 63$

e. $4v = 52$

Student answer: $v = 14$

4. Solve each equation. Show all steps and check each answer as shown.

Ex. $u + 15 = 47$ $-15 -15$ $u = 32$ $(32) + 15 = 47$ Correct	a) $x + 7 = 15$	b) $6 + a = 18$
c) $p - 23 = 34$	d) $45 = r - 15$	e) $21 = 5 + t$

5. Solve each equation. Show all steps and check each answer as shown.

Ex. $\underline{15x = 45}$ $\quad 15 \quad 15$ $\quad \quad x = 3$ $15(3) = 45$ Correct	a) $7x = 21$
b) $2p = 34$	c) $45 = 9r$

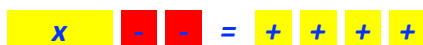
6. Solve each equation. Show all steps and check each answer as shown.

x

Ex. $\frac{x}{12} = 4$ $12 \left(\frac{x}{12} \right) = 4 (12)$ $x = 48$ $\frac{48}{12} = 4$ Correct	a) $\frac{a}{3} = 15$
b) $\frac{x}{6} = 5$	c) $\frac{y}{7} = 13$

7. Represent each equation using tiles. You do not need to solve the equation.

Ex. $x - 2 = 4$



a. $x - 6 = 3$

c. $x + 5 = 11$

b. $x + 1 = 8$

d. $x - 4 = 1$

8. Represent and solve the equation using tiles. *Reminder: Keep the equation balanced by always adjusting the equation the same way on both sides.*

Ex. $x + 2 = 5$







$$x = 3$$

a. $x - 3 = 7$

b. $x + 5 = 9$