UNIT 7 · STANDARD 6.EE.7

Solve One-Step Addition and Subtraction Equations

Lesson 7-2

Name: _____ Date: _____ Class: _____

Key Vocabulary Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

x + 5 = 12 — both sides equal 12 when x = 7

Equation

A math sentence with an equal sign showing both sides are the same.

Addition undoes subtraction: if x − 3 = 10, add 3 to get x = 13

Inverse operation

Two math actions that undo each other, like × and ÷.

x + 5 = 12 → subtract 5 from both sides → x = 7 (x is isolated)

Isolate

To get the letter by itself on one side.

x = 7 is the solution to x + 5 = 12 because 7 + 5 = 12 ✓

Solution

The number that makes the equation true.

Key Ideas & Notes

- Detective Chen found a coded message: 'The suspect's locker number plus 23 equals 58.' She needs to figure out the locker number to crack the case.
- The equation is n + 23 = 58.
- What is n?
- Use the balance scale to solve n + 23 = 58. What must you do to both sides to isolate n?

Think About It

- What operation connects the locker number and 23?
- What does n represent in the equation?
- How could you undo the addition to find n?

My Notes

Guided Examples

Example 1

Solve: x + 9 = 15

Solution: Subtract 9 from both sides: x = 15 − 9 = 6. Check: 6 + 9 = 15 ✓

Answer: A. x = 6

Example 2

Solve: y − 7 = 20

Solution: Add 7 to both sides: y = 20 + 7 = 27. Check: 27 − 7 = 20 ✓

Answer: A. y = 27

Example 3

Solve: n + 15 = 42

Solution: Subtract 15 from both sides: n = 42 − 15 = 27. Check: 27 + 15 = 42 ✓

Answer: A. n = 27

Write About the Math

The Writing Revolution

I can explain my steps using the words equation, inverse operation, isolate, and solution.

1. Kernel Sentence

subject + verb

Model: Equation is a math sentence with an equal sign showing both sides are the same.
Ecuación es una oración matemática con un signo igual que muestra que ambos lados son iguales.

Write a kernel sentence about equation. Use a subject and a verb.
Escribe una oración base sobre ecuación. Usa un sujeto y un verbo.

2. Sentence Expansion

because · but · so

Kernel: Equation matters in math
Ecuación importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because *porque*

Equation matters in math because ____.
Ecuación importa en matemáticas porque ____.

but *pero*

Equation matters in math, but ____.
Ecuación importa en matemáticas, pero ____.

so *entonces*

Equation matters in math, so ____.
Ecuación importa en matemáticas, entonces ____.

3. Sentence Types

4 ways to write a math idea

Statement
Afirmación

Tell one true fact about equation.
Di un hecho verdadero sobre equation.

Equation ____.

Question
Pregunta

Ask a question about equation.
Haz una pregunta sobre equation.

How does ____ ?
¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about equation.
Muestra entusiasmo sobre equation.

Wow, ____ !
¡Guau, ____ !

Command
Mandato

Tell a partner what to do with equation.
Dile a un compañero qué hacer con equation.

First, ____ .
Primero, ____ .

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4. Explain Your Reasoning

use a sentence starter

I used ____ to undo ____.
Usé ____ para deshacer ____.

So the variable equals ____.
Entonces la variable es igual a ____.

This helps me find ____.
Esto me ayuda a hallar ____.

Try It

Solve on your own. Check the answer key when you are done.

1. Solve: m − 11 = 25

A. m = 36

B. m = 14

C. m = 25

D. m = 275

Show your work:

2. A shirt costs $d. After a $15 discount, it costs $38. What is d?

A. $53

B. $23

C. $38

D. $45

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A detective solved x + 25 = 60 and got x = 35. Another detective solved y − 25 = 60 and got y = 35. Are both correct? Explain using inverse operations and check each answer.

Sentence starter: For x + 25 = 60, the inverse operation is ____, so x = ____. Check: ____. For y − 25 = 60, the inverse operation is ____, so y = ____. Check: ____. Therefore, ____.

Show your work:

Reflect — Exit Ticket

Solve: p + 2.8 = 9.1

A. p = 6.3

B. p = 11.9

C. p = 6.8

D. p = 3.25

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. m = 36 — *Add 11 to both sides: m = 25 + 11 = 36. Check: 36 − 11 = 25 ✓*
2. **Try It 2:** A. $53 — *d − 15 = 38 → d = 38 + 15 = 53.*
3. **Exit Ticket:** A. p = 6.3 — *Subtract 2.8 from both sides: p = 9.1 − 2.8 = 6.3. Check: 6.3 + 2.8 = 9.1 ✓*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Equation is a math sentence with an equal sign showing both sides are the same.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).