Today, our lesson is very similar to last Thursday's lesson. Today is Solving Subtraction Equations.

Grab your clicker, your notebook and a pencil.

Get ready for the warm-up questions.

Solve: c + 46 = 72

Text in your response.

32.5 + 1.26 = _____

Text in your response.

45 ÷ 0.1 = _____

(A) 4.5

(B) 0.45

(C) 45

(D) 450

2-5 Solving Subtraction Equations

What You'll Learn

To use addition to solve equations

🔊 **New Vocabulary** Addition Property of Equality

© **CONTENT STANDARDS**
6.EE.5, 6.EE.6, 6.EE.7

Why Learn This?

Nutritional information on products can help you decide what you should eat. You can use an equation to find the nutritional contents of foods.

You learned to solve equations by subtracting the same amount from each side of an equation. You can also solve equations by using addition.

KEY CONCEPTS **Addition Property of Equality**

If you add the same value to each side of an equation, the two sides remain equal.

Arithmetic $2 \cdot 3 = 6$, so $2 \cdot 3 + 4 = 6 + 4$.
Algebra If $a = b$, then $a + c = b + c$.

Some equations have a number subtracted on one side. To get the variable by itself, add the same number to each side of the equation.

EXAMPLE Solving an Equation by Adding

1 Solve $c - 12 = 43$.

c	
12	43

$c - 12 + 12 = 43 + 12$ ← Add 12 to each side to undo the subtraction.

$c = 55$ ← Simplify.

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1 EXAMPLE Solve $p - 22.3 = 5.08$.

$p - 22.3 + 22.3 = 5.08 + 22.3$ Add 22.3 to undo the subtraction.

$p = 27.38$ Simplify.

Solve: n - 53 = 28

Text in your response.

Solve x - 43 = 12

Another way to model a real-world situation is to state the problem as simply as you can. Then use your statement to write an equation.

EXAMPLE **Application: Nutrition**

2 **Gridded Response** A serving of wheat flakes contains 3.7 mg of zinc. The amount of zinc in wheat flakes is 1.75 mg less than the amount in a breakfast bar. How much zinc is in a breakfast bar?

Words amount in flakes is 1.75 less than amount in bar

Let b = the amount of zinc in a breakfast bar.

Equation   3.7   = b —   1.75

$b - 1.75 = 3.7$ ← Write the equation.

$b - 1.75 + 1.75 = 3.7 + 1.75$ ← Add 1.75 to each side to undo the subtraction.

$b = 5.45$ ← Simplify.

The breakfast bar contains 5.45 mg of zinc.

2 **EXAMPLE** The sale price of a CD is $11.49. This is $3.50 less than the regular price of the CD. What is the regular price of the CD?

Words   sale price is $3.50 less than regular price

Let r = the regular price.

Equation $11.49 = r — $3.50

$r - 3.50 = 11.49$ ← Write the equation.

$\underline{+\ 3.50}$ $\underline{+\ 3.50}$ ← Add 3.50 to each side to undo the subtraction.

$r   = 14.99$ ← Simplify.

The regular price of the CD is $14.99.

1. **Error Analysis** Your friend says the solution to $y - 4 = 24$ is 20. What did your friend do wrong?

2. Sheila is 2 years younger than Javon. Sheila is 10 years old. Write and solve an equation to find Javon's age.

   Words: Sheila is 2 years younger than Javon.

   Let j = Javon's age in years.

   Equation: ■ = j − ■

Match each equation with the correct solution.

3. $x - 3 = 7$ **A.** 15

4. $x - 4 = 11$ **B.** 11
                         C. 10
5. $x - 5 = 6$

m − 3.2 = 6.7

Text in your answer.

z − 3.09 = 8.1

Text in your answer.

7.9 = n - 0.35

You may power down your clickers and put them away.

You have a short assignment worksheet.

Name _____ Class _____ Date _____

Practice 2-5

Solving Subtraction Equations

Solve each equation. Then check the solution. Remember, you can draw a diagram to help you solve an equation.

1. $x - 10 = 89$　　　　**2.** $14 = y - 15$　　　　**3.** $a - 10 = 3.4$

_____　　_____　　_____

4. $12.3 = b - 7$　　　**5.** $n - 2.7 = 8.3$　　　**6.** $3.12 = d - 6.88$

_____　　_____　　_____

Write and solve an equation. Then check each solution.

7. The owner of a used music store bought a compact disc for $4.70. When she sold it, her profit was $4.75. What was the selling price?

_____

_____

8. Yesterday, Stephanie spent $38.72 on new shoes and $23.19 on computer software. When she was finished, she had $31.18. How much money did she have before she went shopping?

_____

_____

Solve each equation. Then check the solution.

9. $x - 7 = 77$　　　　　　　　**10.** $3.1 = r - 7.5$

_____　　　　　_____