

Identify the solution of each equation from the list given. (Examples 1 and 4)

1.  $9 + w = 17$ ; 7, 8, 9 8

2.  $8 \div c = 8$ ; 0, 1, 2 1



Solve each equation mentally. (Examples 2 and 5)

3.  $x - 11 = 23$  34


4.  $4x = 32$  8

5. Mississippi and Georgia have a total of 21 electoral votes. Mississippi has 6 electoral votes. Use mental math or the *guess, check, and revise* strategy to solve the equation  $6 + g = 21$  to find  $g$ , the number of electoral votes Georgia has. (Example 3)

15 votes

6. Riley and her sister collect stickers. Riley has 220 stickers in her sticker collection. Her sister has 55 stickers in her collection. Riley has how many times as many stickers as her sister? Use mental math or the *guess, check, and revise* strategy to solve the equation  $55x = 220$ . (Example 6)

$x = 4$


7.  **Building on the Essential Question** How do you solve an equation? By finding a value for the variable that makes the equation true.

### Rate Yourself

I understand how to solve equations

 Great! You're ready for more!

I still have questions about solving equations

 No Problem! Click here to access a Personalized Learning Plan

**FOLDABLES** Time to update your work!

# Independent Practice

Go online for Step-by-Step Solutions

Identify the solution of each equation from the list given. (Examples 1 and 4)

1  $29 + d = 54$ ; 24, 25, 26 **25**

Show your work.

2.  $35 = 45 - n$ ; 10, 11, 12 **10**

3.  $6w = 30$ ; 5, 6, 7 **5**

4.  $x \div 7 = 3$ ; 20, 21, 22 **21**

Solve each equation mentally. (Examples 2 and 5)

5.  $m + 4 = 17$  **13**

6.  $12 = 24 - y$  **12**

7.  $15 - b = 12$  **3**

8.  $10t = 90$  **9**

9.  $22 \div y = 2$  **11**

10.  $54 = 6b$  **9**


 **Identify Structure** For Exercises 11–13, solve using mental math or the *guess, check, and revise strategy*. (Examples 3 and 6)

11. One season, the Cougars won 20 games. They played a total of 25 games. Use the equation  $20 + g = 25$  to find  $g$ , the number of games the team lost.

**5 games**

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12. Five friends earn a total of \$50 doing yard work in their neighborhood. Each friend earns the same amount. Use the equation  $5f = 50$  to find  $f$ , the amount that each friend earns. **\$10**
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-  Last year, 700 students attended Walnut Springs Middle School. This year, there are 665 students. Use the equation  $700 - d = 665$  to find  $d$ , the decrease in the number of students from last year to this year.


**35 students**


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### **H.O.T. Problems** Higher Order Thinking

14.  **Reason Inductively** What 3 consecutive even numbers added together equal 42? Use the equation  $n + (n + 2) + (n + 4) = 42$  to help you solve. **12, 14, 16**
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15.  **Reason Abstractly** Give an example of an equation that has a solution of 5. **Sample answer:  $m + 8 = 13$**
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16.  **Reason Inductively** Tell whether the statement below is *always*, *sometimes*, or *never* true.

*Equations like  $a + 4 = 8$  and  $4 - m = 2$  have exactly one solution.*

**always**

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**CCSS Persevere with Problems** Tell whether each statement is *true* or *false*. Then explain your reasoning.

17. In  $m + 8$ , the variable  $m$  can have any value.

**true; Since  $m + 8$  is not equal to any specific value, there are no restrictions placed upon the value of  $m$ .**

18. In  $m + 8 = 12$ , the variable  $m$  can have any value and be a solution.

**false; This is an equation, so both sides of the equation must equal the same value. Therefore,  $m + 8$  must equal 12 and  $m$  can only have one solution, 4.**

19. **CCSS Reason Abstractly** Distinguish between expressions and equations algebraically, by providing an example of an algebraic expression and an example of an algebraic equation.

**Sample answer:  $14 + x$  is an algebraic expression.  $14 + x = 20$  is an algebraic equation.**

20. **CCSS Model with Mathematics** Write a real-world problem in which you would solve the equation  $a + 12 = 30$ .

**Sample answer: Curtis has 12 baseball cards. Curtis and Juan have a total of 30 baseball cards. Solve the equation  $a + 12 = 30$  to find the number of baseball cards that Juan has.**

