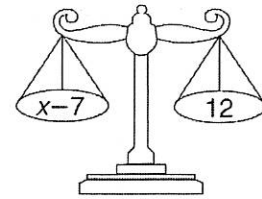


LESSON
1-10

Review for Mastery

Solving Equations by Adding or Subtracting

Solving an equation is like balancing a scale. If you add the same weight to both sides of a balanced scale, the scale will remain balanced. You can use this same idea to solve an equation.



Think of the equation $x - 7 = 12$ as a balanced scale. The equal sign keeps the balance.

$-7 + 7 = 0$	$x - 7 = 12$	
	$x - 7 + 7 = 12 + 7$	Add 7 to both sides.
	$x + 0 = 19$	Combine like terms.
	$x = 19$	

When you solve an equation, the idea is to get the variable by itself. What you do to one side of the equation, you must do to the other side.

- To solve a subtraction equation, use addition.
- To solve an addition equation, use subtraction.

Solve and check: $y + 8 = 14$.

$+8 - 8 = 0$	$y + 8 = 14$	
	$y + 8 - 8 = 14 - 8$	Subtract 8 from both sides.
	$y + 0 = 6$	Combine like terms.
	$y = 6$	

Check: $y + 8 = 14$ To check, substitute 6 for y .

$$6 + 8 = 14$$

$$14 = 14$$

A true sentence, $14 = 14$, means the solution is correct.

Solve and check.

1. $x - 2 = 8$

$$x - 2 + \underline{\hspace{2cm}} = 8 + \underline{\hspace{2cm}}$$

$$x - 0 = \underline{\hspace{2cm}}$$

2. $b + 5 = 11$

$$b + 5 - \underline{\hspace{2cm}} = 11 - \underline{\hspace{2cm}}$$

$$b + 0 = \underline{\hspace{2cm}}$$

3. $n + 8 = 11$

4. $y - 6 = 2$

5. $a - 9 = 4$

6. $m + 2 = 18$

Practice B

Solving Equations by Adding or Subtracting

Solve each equation. Check your answer.

1. $33 = y - 44$

2. $r - 32 = 77$

3. $125 = x - 29$

4. $k + 18 = 25$

5. $589 + x = 700$

6. $96 = 56 + t$

7. $a - 9 = 57$

8. $b - 49 = 254$

9. $987 = f - 11$

10. $32 + d = 1,400$

11. $w - 24 = 90$

12. $95 = g - 340$

13. $e - 35 = 59$

14. $84 = v + 30$

15. $h + 15 = 81$

16. $110 = a + 25$

17. $45 + c = 91$

18. $p - 29 = 78$

19. $56 - r = 8$

20. $39 = z + 8$

21. $93 + g = 117$

22. The Morales family is driving from Philadelphia to Boston. So far, they have driven 167 miles. This is 129 miles less than the total distance they must travel. How many miles is Philadelphia from Boston?
- _____

23. Ron has \$1,230 in his savings account. This is \$400 more than he needs to buy a new big screen TV. Write and solve an equation to find out how much the TV costs.
- _____