

3-5 Study Guide

Solving Equations with the Variable on Each Side

LOOK

*ALL
WORK
ON
LOOSE-
LEAF!

Grouping Symbols When solving equations that contain grouping symbols, first use the Distributive Property to eliminate grouping symbols. Then solve.

Example

Solve $4(2a - 1) = -10(a - 5)$.

Use Arrows.

$$\begin{array}{rcl} 8a - 4 & = & -10a + 50 \\ +10a & & +10a \\ \hline 18a - 4 & = & 50 \\ +4 & & +4 \\ \hline 18a & = & 54 \\ \frac{18a}{18} & = & \frac{54}{18} \\ \hline a & = & 3 \end{array}$$

CK $4[2(3) - 1] \stackrel{?}{=} -10[(3) - 5]$
 $4[6 - 1] \stackrel{?}{=} -10[-2]$
 $4[5] \stackrel{?}{=} 20 \checkmark$

Exercises

Skip # 3, 8, and 20.

Solve each equation. Then check your solution.

1. $-3(x + 5) = 3(x - 1)$

2. $2(7 + 3t) = -t$

3. $3(a + 1) - 5 = 3a - 2$

Skip, answer is ALL REAL NUMBERS

4. $75 - 9g = 5(-4 + 2g)$

5. $5(f + 2) = 2(3 - f)$

6. $4(p + 3) = 36$

7. $18 = 3(2c + 2)$

8. $3(d - 8) = 3d$

9. $5(p + 3) + 9 = 3(p - 2) + 6$

Skip, NO SOLUTION

10. $4(b - 2) = 2(5 - b)$

11. $1.2(x - 2) = 2 - x$

12. $\frac{3 + y}{4} = \frac{-y}{8}$

13. $\frac{a - 8}{12} = \frac{2a + 5}{3}$

14. $2(4 + 2k) + 10 = k$

15. $2(w - 1) + 4 = 4(w + 1)$

16. $6(n - 1) = 2(2n + 4)$

17. $2[2 + 3(y - 1)] = 22$

18. $-4(r + 2) = 4(2 - 4r)$

19. $-3(x - 8) = 24$

20. $4(4 - 4k) = -10 - 16k$

21. $6(2 - 2y) = 5(2y - 2)$

Skip, NO SOLUTION