Name _____ Date _____

1-7 Study Guide

Solving Two-Step Equations

To solve a two-step equation, undo each operation. First undo addition and subtraction. Then undo multiplication and division.

Examples **1** **Solve $4k - 3 = 13$. Check your solution.**

$4k - 3 + 3 = 13 + 3$ *Add 3 to each side to undo subtraction of 3.*

$4k = 16$

$\frac{4k}{4} = \frac{16}{4}$ *Divide each side by 4 to undo multiplication of 4.*

$k = 4$

Check: $4k - 3 = 13$

$4 \cdot 4 - 3 \stackrel{?}{=} 13$ *Replace k with 4.*

$16 - 3 \stackrel{?}{=} 13$ *Multiply first. Then subtract.*

$13 = 13$ ✔

2 **Solve $\frac{r}{5} + 2 = 6$. Check your solution.**

$\frac{r}{5} + 2 - 2 = 6 - 2$ *Subtract 2 from each side to undo addition of 2.*

$\frac{r}{5} = 4$

$\frac{r}{5} \times 5 = 4 \times 5$ *Multiply each side by 5 to undo division by 5.*

$r = 20$

Check: $\frac{r}{5} + 2 = 6$

$\frac{20}{5} + 2 \stackrel{?}{=} 6$ *Replace r with 20.*

$4 + 2 \stackrel{?}{=} 6$ *Divide first. Then add.*

$6 = 6$ ✔

Solve each equation. Check your solution.

1. $6t - 3 = 21$

2. $2m + 7 = 15$

3. $8 - 1.2y = 2$

4. $\frac{h}{3} - 5 = 2$

5. $\frac{v}{2} + 11 = 16$

6. $\frac{x}{7} + 1 = 4$

7. $9w - 7 = 74$

8. $50 - 3b = 35$

9. $\frac{n}{10} - 2.5 = 7.5$

10. $\frac{a}{7} - 13 = 12$

11. $6x - 12 = 78$

12. $7p + 8.4 = 8.4$

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1-7 Practice

Solving Two-Step Equations

Solve each equation. Check your solution.

1. $8x + 3 = 35$
2. $2y - 9 = 9$
3. $6a + 12 = 42$
4. $\frac{b}{4} - 2 = 8$
5. $\frac{w}{2} + 5 = 10$
6. $\frac{c}{7} - 3 = 0$
7. $8 + 5d = 53$
8. $12f - 9 = 27$
9. $7 + 8g = 87$
10. $6h + 3.7 = 51.7$
11. $7z - 9.4 = 11.6$
12. $4g + 0.7 = 36.7$
13. $2y - 3 = 9$
14. $6c + 4 = 58$
15. $9d - 8 = 154$
16. $9 + \frac{r}{5} = 15$
17. $\frac{s}{3} - 7 = 7$
18. $\frac{t}{6} + 12 = 24$
19. $74 = 14 + 5k$
20. $79 = 6t + 7$
21. $51 = 4m - 13$
22. $10 = 6 + \frac{t}{8}$
23. $4 = \frac{s}{5} - 16$
24. $\frac{u}{8} + 15 = 27$
25. $6x + 1.2 = 4.2$
26. $8y - 4.6 = 68.2$
27. $10f - 0.5 = 22.5$
28. $0.4m - 2.7 = 11.7$
29. $1.2n + 3.6 = 14.4$
30. $0.93 = 0.15 + 0.3w$