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Study Guide

Name _____

Date _____

Solving Addition and Subtraction Equations

Remember, equations must always remain balanced. If you add the same number to each side of an equation, the two sides remain equal.

Example 1 Solve $t - 12.2 = 15.3$. Check your solution.

$$t - 12.2 + 12.2 = 15.3 + 12.2$$
$$t = 27.5$$

Add 12.2 to each side of the equation.

Check: $t - 12.2 = 15.3$
 $27.5 - 12.2 \stackrel{?}{=} 15.3$
 $15.3 = 15.3$ ✓

Replace t with 27.5.

If you subtract the same number from each side of an equation, the two sides remain equal.

Example 2 Solve $5\frac{2}{3} + v = 7\frac{1}{2}$. Check your solution.

$$5\frac{2}{3} - 5\frac{2}{3} + v = 7\frac{1}{2} - 5\frac{2}{3}$$
$$v = 7\frac{5}{10} - 5\frac{4}{10}$$
$$v = 2\frac{1}{10}$$

Subtract $5\frac{2}{3}$ from each side of the equation.

Check: $5\frac{2}{3} + v = 7\frac{1}{2}$

$$5\frac{2}{3} + 2\frac{1}{10} \stackrel{?}{=} 7\frac{1}{2}$$

$$5\frac{4}{10} + 2\frac{1}{10} \stackrel{?}{=} 7\frac{1}{2}$$

$$7\frac{5}{10} \stackrel{?}{=} 7\frac{1}{2}$$

$$7\frac{1}{2} = 7\frac{1}{2}$$
 ✓

Replace v with $2\frac{1}{10}$.

Solve each equation. Check your solution.

1. $17 + k = 62$

2. $j - 4.5 = 1.7$

3. $8.9 = p - 3.3$

4. $n + 2\frac{1}{3} = 4\frac{2}{3}$

5. $17.2 = h + 4.9$

6. $y - 9 = 29$

7. $133 = v + 70$

8. $x - 7\frac{1}{2} = 15$

9. $146 + j = 199$

10. $m - 9.4 = 15.7$

11. $89.6 = c + 62.2$

12. $f - 19 = 77$

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Practice

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Solving Addition and Subtraction Equations

Solve each equation. Check your solution.

1. $y + 18 = 39$

2. $m - 23 = 17$

3. $74 = d + 37$

4. $w + 6 = 19$

5. $n - 4.7 = 8.4$

6. $s - 5 = 12$

7. $m + 18 = 78$

8. $12\frac{3}{4} + y = 32\frac{1}{8}$

9. $1842 + t = 63$

10. $p - 12 = 34$

11. $b - 43 = 18$

12. $48 = t - 63$

13. $d + 2.6 = 7.1$

14. $h - 32\frac{3}{5} = 44$

15. $e - 0.9 = 17.4$

16. $26 = y - 87$

17. $13.2 + j = 17.4$

18. $25\frac{2}{3} = k - 2\frac{1}{6}$

19. $104 = a - 14$

20. $a + 34 = 90$

21. $e + 12.2 = 40$