Math Skills Sharpener Name Answer Key

Skill: Solving Linear Equations Per _____ Date _____ Seat # _____

Monday

Objective: Solve two-step equations.

Directions: Solve the equation. Show all work. If necessary, leave your answer as a simplified improper fraction.

1. $4g - 2 = -6$ → $g = -1$
2. $18 = 5p + 3$ → $p = 3$
3. $0.2n + 3 = 8.6$ → $n = 28$
4. $7m - 17 = 60$ → $m = 11$
5. $\frac{x}{3} - 7 = -7$ → $x = -6$
6. $\frac{3}{2}a - 8 = 11$ → $a = \frac{38}{3}$
7. $\frac{6b+4}{-7} = -17(-2)$ → $b = 30$
8. $3.1y - 1.5 = 5.32$ → $y = 2.2$
9. $\frac{x}{8} + 21 = 14$ → $x = -56$
10. $\frac{2}{3}n - 9 = -10$ → $n = -6$
11. $\frac{p-15}{6} = -6(9)$ → $p = -39$
12. $\frac{w+3}{5} - 4 = 6$ → $w = 47$

Ans 1. -1 2. 3 3. 28 4. 11 5. -6 6. 38/3 7. 30 8. 11/5 9. 56 10. -6 11. -39 12. 47

Tuesday

Objective: Solve multi-step equations.

Directions: Solve the equation. Show all work. If necessary, leave your answer as a simplified improper fraction.

1. $7n + 6(-2n) = -4$ → $n = -2$
2. $-11 = 4 + 3c + 3$ → $c = -6$
3. $2(2a - 1) - 3 = 15$ → $a = 5$
4. $-53 = 7(8 - 2) + 10$ → $-7 = 9$
5. $3.5x + 5(-1.5x) = 8$ → $x = \frac{3}{2}$
6. $\frac{6-3j}{8} - (-4) = -12(6)$ → $j = \frac{76}{3}$
7. $\frac{9x+4}{5} - 8 = 5.4$ → $x = 7$
8. $3(2x - 1) + 4x = 42$ → $x = \frac{9}{2}$
9. $\frac{2x}{3} - 5x = 4 - (x + 1)$ → $x = -\frac{9}{10}$
10. $6x - (2x - 9) = 33$ → $x = 6$
11. $\frac{5}{8}x + \frac{1}{3} = \frac{3(x+1)}{4}$ → $x = \frac{5}{21}$
12. $\frac{7}{8} - \frac{3(2x-1)}{4} = \frac{5}{8}$ → $x = \frac{31}{36}$

Ans 1. -2 2. -6 3. 5 4. -7 5. 3/2 6. 76/3 7. 7 8. 9/2 9. -9/10 10. 6 11. 5/21 12. 31/36

Wednesday

Objective: Solve equations with variables on both sides of the equal sign.

Directions: Solve the equation. Show all work. If necessary, leave your answer as a simplified improper fraction.

1. $3 - 4x = 10x + 10$	**2.** $3x - 5 = 7x - 21$	**3.** $-4x + 8 = 4(2x + 5)$
4. $6(x + 2) - 4 = -10$	**5.** $7(m - 3) + 2 = 9$	**6.** $5 + \frac{1}{2}(x - 6) = 4$
7. $4(2a - 1) = -10(a - 5)$	**8.** $3(1 + x) - 5 = 3x - 2$	**9.** $2(x - 3) + 5 = 3(x - 1) - x$
10. $\frac{3}{2}x - \frac{2}{2}x = 4 + \frac{1}{2}x$	**11.** $\frac{1}{6}(x - 4) = \frac{1}{3}(2x + 4)$	**12.** $-3(2x - 5) = 0.5(-12x + 30)$

Ans **1.** -1/2 **2.** 4 **3.** -1
4. -3 **5.** 4 **6.** 8 **7.** 3
8. Inf many sol **9.** No sol
10. No sol **11.** -4
12. Inf many sol

Thursday

Objective: Review solving multi-step equations.

Directions: Solve the equation. Show all work. If necessary, leave your answer as a simplified improper fraction.

1. $5 - 9x = 23$	**2.** $\frac{x-15}{5} = -3$	**3.** $\frac{5}{3} = \frac{6}{x+2}$
4. $8x - 10 = -3x + 2$	**5.** $-7(x - 3) = -4$	**6.** $\frac{x}{-5} + 6 = 31$
7. $\frac{3}{4}x - 8 = \frac{1}{4}x + 9$	**8.** $3x - 2(x + 3) = x$	**9.** $\frac{x-2}{6} = \frac{x}{4}$
10. $2(x - 3) = 3(x - 1)$	**11.** $3 - \frac{5}{6}x = 2 + \frac{1}{6}x$	**12.** $2(3x + 9) = -3(x + 5) - 2x$

Ans **1.** -2 **2.** 0 **3.** 8/5
4. 12/11 **5.** 25/7 **6.** -125
7. 34 **8.** No sol **9.** -1
10. -3 **11.** 1 **12.** -3