AChor/MFM2P **Name:** _____
Date: _____

Worksheet 5-1: One-Step Equations

Step 1: Isolate the variable by **subtracting, adding, dividing OR multiplying**

*Hint: Identify the math operation and its opposite operation **FIRST**!*

Steps	English
1. $x + 5 = 25$ $-5 \quad -5$ $x = 20$	"x plus 5 equals 25" *Math Operation: Add* *Opposite Operation:* ***Subtract*** **Step:** Isolate x by subtracting 5 from both sides (Simplify)
2. $y - 7 = 18$ $+7 \quad +7$ $y = 25$	"y minus 7 equals 18" *Math Operation: Subtract* *Opposite Operation:* ***Add*** **Step:** Isolate y by adding 7 to both sides (Simplify)
3. $m + 10 = 27$	"m plus 10 equals 27" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
4. $n - 9 = -12$	"n minus 9 equals –12" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)

Answers: **3.** $m = 17$ **; 4.** $n = -3$

Steps	English
5. $6x = 42$ $\frac{6x}{6} = \frac{42}{6}$ $x = 7$	"$6x$ equals 42" *Math Operation: Multiply* *Opposite Operation:* ***Divide*** **Step:** Isolate x by dividing both sides with 6 (Simplify)
6. $9y = -108$	"$9y$ equals –108" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
7. $\frac{x}{4} = -8$ $4\left(\frac{x}{4}\right) = 4(-8)$ $x = -32$	"x over 4 equals –8" *Math Operation: Divide* *Opposite Operation:* ***Multiply*** **Step:** Isolate x by multiplying both sides with 4 (Simplify)
8. $\frac{x}{10} = -2.5$	"x over 10 equals –2.5" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)

Answers: **6.** $y = -12$ **; 8.** $x = -25$

Steps	English
9. $\frac{c}{5}=7$	"_____" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
10. $p-1=10$	"_____" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
11. $w+8=-4$	"_____" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
12. $7a=-49$	"_____" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)
13. $\frac{w}{-2}=24$	"_____" *Math Operation:* _____ *Opposite Operation:* _____ **Step:** (Simplify)

Answers: **9.** $c=35$ **; 10.** $p=11$ **; 11.** $w=-12$ **; 12.** $a=-7$ **; 13.** $w=-48$

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Solving One-Step Equations

Solve. (Always check your answer by substitution!)

1. $x - 11 = 22$

2. $y + 12 = 28$

3. $m - 23 = -33$

4. $n + 9 = -25$

5. $7 + a = 21$

6. $15 = -8 + w$

7. $\frac{y}{6} = -8$

8. $\frac{n}{-2} = -18$

9. $-12 = \frac{b}{6}$

10. $-3k = 33$

11. $-c = -100$

12. $-125 = 5d$

Answers: **1.** $x = 33$ **; 2.** $y = 16$ **; 3.** $m = -10$ **; 4.** $n = -34$ **; 5.** $a = 14$ **; 6.** $w = 23$ **; 7.** $y = -48$ **; 8.** $n = 36$ **;**
9. $b = -72$ **; 10.** $k = -11$ **; 11.** $c = 100$ **; 12.** $d = -25$