

1<sup>st</sup> 5  
SOLVE.

1.  $6 - \frac{p}{4} = -6$   $p = 48$   

$$\begin{array}{r} 6 - \frac{p}{4} = -6 \\ -6 - \frac{p}{4} = -12 \\ \frac{-p}{4} = -12 \cdot 4 \\ -p = -48 \\ p = 48 \end{array}$$

2.  $5 - 6(x-2) = 10$   

$$\begin{array}{r} 5 - 6(x-2) = 10 \\ 5 - 6x + 12 = 10 \\ +17 - 6x = 10 \\ -17 - 6x = -7 \\ -6x = -7 \\ x = \frac{7}{6} \end{array}$$

3.  $3(x+2) - 4(2x-5) = 6$   

$$\begin{array}{r} 3(x+2) - 4(2x-5) = 6 \\ 3x + 6 - 8x + 20 = 6 \\ -5x + 26 = 6 \\ -26 -26 \\ \hline -5x + 0 = -20 \\ -5x = -20 \\ \frac{-5x}{-5} = \frac{-20}{-5} \\ x = 4 \end{array}$$

Equations Day 5

3.  $3(x+2) - 4(2x-5) = 6$   

$$\begin{array}{r} 3(x+2) - 4(2x-5) = 6 \\ 3x + 6 - 8x + 20 = 6 \\ -5x + 26 = 6 \\ -26 -26 \\ \hline -5x + 0 = -20 \\ -5x = -20 \\ \frac{-5x}{-5} = \frac{-20}{-5} \\ x = 4 \end{array}$$

Equations Day 5

1)  $6a + 5a = -11$   $-1$   
 $\{-1\}$

2)  $-6n - 2n = 16$   $-2$   
 $\{-2\}$   

$$\begin{array}{r} -6n - 2n = 16 \\ -8n = 16 \\ \frac{-8n}{-8} = \frac{16}{-8} \\ n = -2 \end{array}$$

3)  $4x + 6 + 3 = 17$   $2$   
 $\{2\}$

4)  $0 = -5n - 2n$   $0$   
 $\{0\}$

5)  $6r - 1 + 6r = 11$   $1$   
 $\{1\}$

6)  $r + 11 + 8r = 29$   $2$   
 $\{2\}$

Equations Day 5

7)  $-10 = -14v + 14v$   $\text{NO Solution}$   
 $\text{No solution.}$   
 $-10 = 0$   $\text{false}$

8)  $-10p + 9p = 12$   $-12$   
 $\{-12\}$   

$$\begin{array}{r} -10p + 9p = 12 \\ -3 - 2 + 3 = -2 \\ -5 + 3 = -2 \\ 10) a - 2 + 3 = -2 \\ -3 \\ \hline a + 1 = -2 \\ -1 -1 \\ \hline a = -3 \end{array}$$

9)  $42 = 8m + 13m$   $2$   
 $\{2\}$

11)  $18 = 3(3x - 6)$   $4$   

$$\begin{array}{r} 18 = 9x - 18 \\ +18 +18 \\ \hline 36 = 9x \end{array}$$

12)  $30 = 5(6n + 6)$   $-2$   

$$\begin{array}{r} 30 = 30n - 30 \\ +30 +30 \\ \hline 60 = 30n \\ \frac{60}{-30} = \frac{30n}{-30} \\ n = -2 \end{array}$$

Equations Day 5

13)  $37 = -3 + 5(x+6)$   $2$   

$$\begin{array}{r} 37 = -3 + 5x + 30 \\ 37 = 5x + 27 \\ -27 -27 \\ \hline 10 = 5x \\ 10 = 5x \\ \frac{10}{5} = \frac{5x}{5} \\ 2 = x \end{array}$$

14)  $-13 = 5(1+4m) - 2m$   $-1$   
 $\{-1\}$

15)  $4(-x+4) = 12$   $1$   

$$\begin{array}{r} -4x + 16 = 12 \\ -16 -16 \\ \hline -4x = -4 \\ \frac{-4x}{-4} = \frac{-4}{-4} \\ x = 1 \end{array}$$

16)  $-2 = -(n-8)$   $10$   
 $\{10\}$

17)  $-6(1-5v) = 54$   $2$   

$$\begin{array}{r} -6 + 30v = 54 \\ +6 +6 \\ \hline 30v = 60 \\ 30v = 60 \\ \frac{30v}{30} = \frac{60}{30} \\ v = 2 \end{array}$$

18)  $8 = 8v - 4(v+8)$   $10$   

$$\begin{array}{r} 8 = 8v - 4v - 32 \\ 8 = 4v - 32 \\ +32 +32 \\ \hline 40 = 4v \\ 40 = 4v \\ \frac{40}{4} = \frac{4v}{4} \\ 10 = v \end{array}$$

19)  $10(1+3b) = -20$   $-1$   
 $\{-1\}$

20)  $-5n - 8(1+7n) = -8$   $0$   
 $\{0\}$

Equations Day 5

20)  $-5n - 8(1+7n) = -8$   

$$\begin{array}{r} -5n - 8 - 56n = -8 \\ -61n - 8 = -8 \\ +8 +8 \\ \hline -61n = 0 \\ \frac{-61n}{-61} = \frac{0}{-61} \\ n = 0 \end{array}$$

Feb 3-9:31 AM

**NOTES**

1. simplify each side first  
2. get variables on the same side

**Equations with Variables on Both Sides**

- Solve the equation for the missing variable.
  - $6d = d + 4$
- Solve the equation for the missing variable.
  - $2(c-6) = 9c + 2$

$$\begin{array}{r} -d \quad -d \\ \hline 0 = 4 \\ -7d = 4 \\ \hline d = -\frac{4}{7} \end{array}$$

$$\begin{array}{r} 2c - 12 = 9c + 2 \\ -2c \quad -2c \\ \hline 0 - 12 = 7c + 2 \\ -12 = 7c + 2 \\ -2 \quad -2 \\ \hline -14 = 7c \\ -2 = c \end{array}$$

Equations Day 5

1. simplify each side  
2. move variables to same side

**Equations with Variables on Both Sides**

- Solve each equation for the missing variable.
  - $m - 5 = 3m$
- Solve each equation for the missing variable.
  - $7k - 4 = 5k + 16$

$$\begin{array}{r} -m \quad -3m \\ \hline -5 = 2m \\ \hline -\frac{5}{2} = m \end{array}$$

$$\begin{array}{r} 2k - 4 = 5k + 16 \\ -5k \quad -5k \\ \hline 2k - 4 = 16 \\ +4 \quad +4 \\ \hline 2k = 20 \\ \hline k = 10 \end{array}$$

Equations Day 5

**Practice Problems**

1.  $6x - 2 = x + 13$

$$\begin{array}{r} -x \quad -x \\ \hline 5x - 2 = 13 \\ +2 \quad +2 \\ \hline 5x = 15 \\ \frac{5x}{5} = \frac{15}{5} \\ x = 3 \end{array}$$

2.  $5y - 3 = 2y + 12$

$$\begin{array}{r} -2y \quad -2y \\ \hline 3y - 3 = 12 \\ +3 \quad +3 \\ \hline 3y = 15 \\ \frac{3y}{3} = \frac{15}{3} \\ y = 5 \end{array}$$

3.  $4p - 10 = p + 3p - 2p$

$$\begin{array}{r} -4p \quad -4p \\ \hline -10 = -2p \\ -2 \quad -2 \\ \hline 5 = p \end{array}$$

Equations Day 5

4.  $2x + 3(x + 15) = 225 - x$

$$\begin{array}{r} 2x + 3x + 45 = 225 - x \\ 5x + 45 = 225 - x \\ +x \quad +x \\ \hline 6x + 45 = 225 \\ -45 \quad -45 \\ \hline 6x = 180 \\ \frac{6x}{6} = \frac{180}{6} \\ x = 30 \end{array}$$

Equations Day 5

**PW 20**

- Workbook pg. 26 # 1 - 13, 15, 17, 20, 22 - 25, 28, 30, 32, 33

Equations Day 5