

Algebra I

5.2 HW

#6. Solve for x or y on $Eg^{\#} 2$ b/c they are both 1 step to solve.

#7. Solve for x on $Eg^{\#} 1$ since it's one step to solve.

#8. Solve for x on the 2nd $Eg^{\#}$ since it's just 1 step to solve.

#9. $x = 17 - 4y$ plugging in $17 - 4y$ into the x in $Eg^{\#} 2$.

$$y = x - 2$$

$$y = 17 - 4y - 2$$

$$y = 15 - 4y$$

$$+4y \quad +4y$$

$$\frac{5y}{5} = \frac{15}{5}$$

$$y = 3$$

$$x = 17 - 4y$$

$$x = 17 - 4(3)$$

$$= 17 - 12$$

$$= 5$$

Answer: (5, 3)

#10. $6x - 9 = y$

$$y = -3x$$

$$6x - 9 = -3x$$

$$-6x$$

$$-6x$$

$$\frac{-9}{-9} = \frac{-9x}{-9}$$

$$x = 1$$

$$y = -3x$$

$$y = -3(1)$$

$$= -3$$

Solution: (1, -3)

#11. $x = 16 - 4y$
 $3x + 4y = 8$

$$3(16 - 4y) + 4y = 8$$

$$48 - 12y + 4y = 8$$

$$48 - 8y = 8$$

$$\begin{array}{r} -48 \\ -48 \end{array}$$

$$x = 16 - 4y$$

$$x = 16 - 4(5)$$

$$= 16 - 20$$

$$= -4$$

$$\frac{-8y = -40}{-8} = \frac{-40}{-8}$$

$$y = 5$$

Answer: $(-4, 5)$

#12. $-5x + 3y = 51$

$$y = 10x - 8$$

$$-5x + 3(10x - 8) = 51$$

$$-5x + 30x - 24 = 51$$

$$\begin{array}{r} 25x - 24 = 51 \\ +24 \quad +24 \end{array}$$

$$y = 10x - 8$$

$$y = 10(3) - 8$$

$$= 30 - 8$$

$$= 22$$

$$\frac{25x = 75}{25} = \frac{75}{25}$$

$$x = 3$$

Answer: $(3, 22)$

#13. $2x = 12$

→ just solve for x.

$$x - 5y = -29$$

$$\frac{2x = 12}{2} = \frac{12}{2}$$

$$x - 5y = -29$$

$$\leftarrow x = 6$$

$$6 - 5y = -29$$

$$\begin{array}{r} -6 \quad -6 \end{array}$$

$$\begin{array}{r} -5y = -35 \\ -5 \quad -5 \end{array}$$

$$y = 7$$

Answer: $(6, 7)$

#14. $2x - y = 23$

$x - 9 = -1$

→ solve for x

$x - 9 = -1$
+9 +9

$2x - y = 23$

← $x = 8$

$2(8) - y = 23$

$16 - y = 23$

$-16 \quad -16$

Answer: $(8, -7)$

$\frac{-y}{-1} = \frac{7}{-1}$

$y = -7$

#15. $5x + 2y = 9$

$x + y = -3$

→ solve for x

$x + y = -3$

$-y \quad -y$

$x = -3 - y$

$5x + 2y = 9$

$5(-3 - y) + 2y = 9$

$-15 - 5y + 2y = 9$

$-15 - 3y = 9$

$+15 \quad +15$

$\frac{-3y}{-3} = \frac{24}{-3}$

$y = -8$

$x = -3 - y$

$= -3 - (-8)$

$= -3 + 8$

$= 5$

Answer: $(5, -8)$