

Name: \_\_\_\_\_

Show work needed to justify your answer.

Date: \_\_\_\_\_

HW # 40: Algebra 1 - Standard 25 - Solve Systems - Elimination Method - Add & Subtract

5 points

Use elimination to solve each system of equations.

$$\begin{array}{r} 1. \quad -v + w = 7 \\ + \quad v + w = 1 \\ \hline \end{array}$$

$2w = 8$   
 $w = 4$

$v + 4 = 1$   
 $v = -3$

$(w, v) \rightarrow (4, -3)$

$$\begin{array}{r} 3. \quad -4x + 5y = 17 \\ + \quad 4x + 6y = -6 \\ \hline \end{array}$$

$11y = 11$   
 $y = 1$

$4x + 6(1) = -6$   
 $4x + 6 = -6$   
 $4x = -12$   
 $x = -3$

$(-3, 1)$

$$\begin{array}{r} 4. \quad 5m - 2p = 24 \\ + \quad 3m + 2p = 24 \\ \hline \end{array}$$

$8m = 48$   
 $m = 6$

$2p = 6$   
 $p = 3$

$3(6) + 2p = 24$   
 $18 + 2p = 24$

$(m, p) = (6, 3)$

$$\begin{array}{r} 6. \quad 6r - 6t = 6 \\ - \quad (3r - 6t = 15) \\ \hline \end{array}$$

$3r = -9$   
 $r = -3$

$-6t = 24$   
 $t = -4$

$6(-3) - 6t = 6$   
 $-18 - 6t = 6$

$(r, t) \rightarrow (-3, -4)$

28. Twice a number added to another number is 15. The sum of the two numbers is 11. Find the numbers.

$$\begin{array}{r} 2x + y = 15 \\ - (x + y = 11) \\ \hline \end{array}$$

$x = 4$

$$4 + y = 11$$

$y = 7$

$(4, 7)$