## \*AAT (IC/HW)-Day 1

## Chapter 9: 9-2 Systems of Linear Equations in 2 Variables

	1/1		
Name_	ney		
Date: _	_/_	Period:	

Use elimination to solve the system.

1. 
$$\begin{cases} 2x + 3y = 2 \\ (x - 2y = 8) - 2 \end{cases}$$

$$+ \frac{21}{-21} + \frac{31}{-21} = -16$$

$$7y = -14$$
  
 $y = -2$   
 $x = 4$   
 $(4, -2)$ 

2. 
$$(2x + 5y = 16)3$$
  
 $(3x - 7y = 24)-2$ 

$$+$$
  $-6/x + 14/= -48$ 

$$29y=0$$
  
 $y=0$   
 $x=8$   
 $(8,0)$ 

3. 
$$\begin{cases} 3r + 4s = 3 \\ r - 2s = -4 \end{cases}$$

$$5v = -5$$

$$v = -1$$

4. 
$$(5x - 6y = 4)3$$
  
 $(3x + 7y = 8) - 5$   
 $15/4 - 18/1 = 12$   
 $-15/4 - 35/1 = -40$ 

$$\begin{array}{r}
-53 & -28 \\
-53 & -53
\end{array}$$

$$\begin{array}{r}
+ = 28 \\
53
\end{array}$$

$$\begin{array}{r}
1 & -28 \\
4 & -53
\end{array}$$

$$\begin{array}{r}
1 & -28 \\
4 & -76
\end{array}$$

$$(\frac{76}{53}, \frac{28}{53})$$

5. 
$$\begin{pmatrix} \frac{1}{3}c + \frac{1}{2}d = 5 \\ c - \frac{2}{3}d = -1 \end{pmatrix}$$
 6

$$2(2c+3d=30)$$
  
  $3(3c-2d=-3)$ 

$$130 = 51$$
 $C = \frac{51}{13}$ 

$$\left(\frac{51}{13}, \frac{96}{13}\right)$$

6. 
$$\begin{cases} \sqrt{3} x - \sqrt{2} y = 2\sqrt{3} \\ 2\sqrt{2} x + \sqrt{3} y = \sqrt{2} \end{cases} \sqrt{3} \begin{cases} 2\sqrt{2} \\ \sqrt{3} \end{cases} \sqrt{3}$$

$$7x = 8$$
  
 $x = \frac{8}{3}$ 

$$+ 2\sqrt{6} \times -44 = 4\sqrt{6}$$

$$+ -2\sqrt{6} \times -34 = -\sqrt{6}$$

8. 
$$\begin{cases} (3m - 4n = 2)^{2} \\ -6m + 8n = -4 \end{cases}$$

9. 
$$\begin{cases} \frac{2}{x} + \frac{3}{y} = -2 \\ \frac{4}{x} - \frac{5}{y} = 1 \end{cases}$$
 let  $u = \frac{1}{x}$ 

$$(2u+3v=-2)-2$$
  
 $4u-5v=1$ 

$$-4\mu - 6\nu = 4$$

$$+ 4\mu - 5\nu = 1$$

$$-11\nu = 5$$

$$\begin{array}{c} -1/V \\ V = 1 \\ V = -\frac{1}{22} \\ -\frac{1}{22} = \frac{1}{22} \\ -\frac{1}{22} = \frac{1}{22} \\ -\frac{1}{22} = \frac{1}{22} \end{array}$$

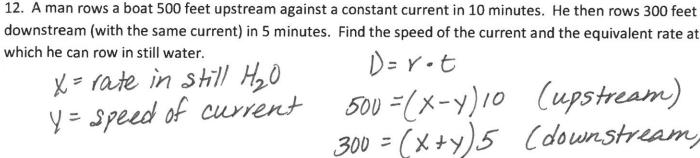
$$-5y = y = -5y =$$

10. The price admission to a high school play was \$3.00 for students and \$4.50 for nonstudents. If 450 tickets were sold for a total of \$1555.50, how many of each kind were purchased?

$$\begin{array}{r}
-3 \times -3 & = -1350 \\
+ & 3 \times +4.5 & = 1555.5 \\
\hline
1.5 & = 205.5 \\
& = 137 \\
& \times = 313
\end{array}$$

11. An airline that flies from Los Angeles to Albuquerque with a stopover in Phoenix charges a fare of \$45 to Phoenix and a fare of \$60 from Los Angeles to Albuquerque. A total of 185 passengers boarded the plane in Los Angeles, and fares totaled \$10,500. How many passengers got off the plane in Phoenix?

$$\begin{array}{r}
-45x - 45y = -8325 \\
+ 45x + 60y = 10,500 \\
\hline
15y = 2175 \\
y = 145; x = 40
\end{array}$$



the can row in still water.  

$$X = rate in Still H_20$$
  
 $Y = Speed of current$ 

$$V = Speed of current$$

$$V = Speed o$$

3 
$$(x + y = 60)$$
 (quantity)  
 $3x + 8y = 5(60)$  (Yalue)

$$-3x + 3y = 180$$

$$-3x + 8y = 300$$

$$-5y = -120$$

$$y = 24$$

$$x = 36$$

## 14. A silversmith has two alloys, one containing 35% silver and the other 60% silver. How much of each should be melted and combined to obtain 100 grams of an alloy containing 50% silver?

$$35 (x + y = 100)$$
 (quantity)  
 $(35x + .60y = .5(100)$  (Value)

$$-\frac{35x + 604 = 5000}{35x + 354 = 3500}$$

$$-\frac{254 = 1500}{2560}$$

$$4 = 60$$

$$x = 40$$