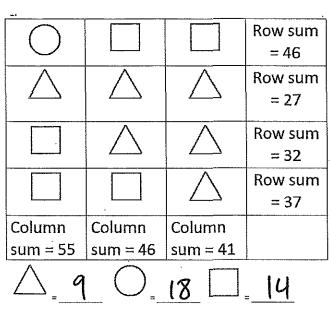
Name: _

9.1 Solving Linear Systems by Substitution

<u>Jell Work</u>

#1



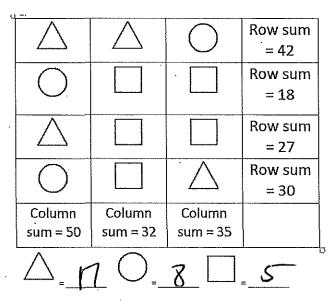
		0	Row sum = 46	
0	\bigcirc	0	Row sum .= 18	
\triangle		\triangle	Row sum = 40	
\square		$ \Delta $	Row sum = 54	
Column	Column	Column		
sum = 60	sum = 52	sum = 46		
\triangle 11 \bigcirc 6 \bigcirc 20				

3

		\bigtriangleup	Row sum = 56	
		·	Row sum = 47	
	\triangle	\bigcirc	Row sum = 55	
$\triangle^{\mathbf{r}}$		\triangle	Row sum = 64	
Column sum = 72	Column sum = 71	Column sum = 79		
$\triangle_{24} \bigcirc_{15} \square_{16}$				

#4

#2



Vocabulary

• <u>Substitution</u> method: solve one equation for one <u>Variable</u>, substitute that value into the other equation, and solve for the other variable

Date:

_____Block: ___

Example 1: Solve using substitution.

$$4x + 5y = 26 (1)
3x = y - 9 (2) (3x + 9 = y) (2) (4x + 5) (3x + 9) = 26 (4x + 15x + 45) = 26 (4x + 15x + 15x + 45) = 26 (4x + 15x + 15x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x + 15x + 15) = 26 (4x + 15x$$

Example 2: Tony invested \$2000, part at an annual interest rate of 8% and the rest at an annual interest rate of 10%. After one year, the total interest was \$190.

a) Create a linear system to model this situation.

let x be the ant invested at
$$8\%$$

let y be the ant invested at 10%
x + y = 2000 \longrightarrow Reamange... X = 2000-y⁽²⁾
 $.08(x) + .10(y) = 190$ () sub (2) into (D).

.....

b) Solve. How much money did Tony invest at each rate?

$$.08(2000-y) + .10y = 190$$

 $160 - .08 + .10y = 190$
 $160 + 0.02y = 190$

Example 3: Admission to an airshow costs \$80 for a car with 2 adults and 3 kids. Admission for a car with 2 adults is \$50. Determine the cost for one child and one adult.

let x nep the cost for a child.
let y rep the cost for an adult.

$$2y > 50$$
 [y=25](2)
 $2y + 3x = 80$ (1) $80b$ (2) into (2)
 $2(25) + 3x = 80$
 $3x = 30$ [X=10]