Unit 1 Day 2 - What is Substitution? Classwork Name: _____

1. Find the value of each shape so that they will add up to give you the specified sums in each row AND each column.

○	□	□	Row sum = 46
△	△	△	Row sum = 27
□	△	△	Row sum = 32
□	□	△	Row sum = 37
Column sum = 55	Column sum = 46	Column sum = 41	

2. What is the value of each shape? ○ = _____ □ = _____ △ = _____

3. Which shape did you choose to figure out first, and why? _____

_____

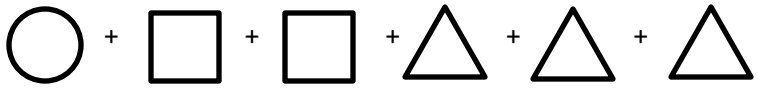
4. Find the value of each shape so that they will add up to give you the specified sums in each row AND each column.

△	△	○	Row sum = 42
○	□	□	Row sum = 18
△	□	□	Row sum = 27
○	□	△	Row sum = 30
Column sum = 50	Column sum = 32	Column sum = 35	

By looking at the leftmost column, what conclusion can you draw about the sum of △ and ○ ?

How does that help you figure out the rest of the puzzle?

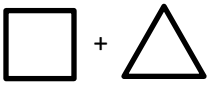
5. What is the value of each shape? ○ = _____ □ = _____ △ = _____

6.  = 100

If you knew that  = 15, redraw the picture with numbers instead of squares:

Now if you knew that  = 10, redraw the new picture with numbers instead of circles:

What is the value of  ?

7. If  = 1 and if  = 10, then what is  ?

8. Find the value of each shape in the system of equations.

$$\begin{cases} 3\blacktriangle + 4\blacksquare = 10 \\ \blacktriangle = 2\blacksquare \end{cases}$$

9. Find the value of each shape in the system of equations.

$$\begin{cases} 2\blacktriangle + 3\blacksquare = 22 \\ \blacksquare = 3\blacktriangle \end{cases}$$

Use what you have learned to solve the following problems:

10. $\begin{cases} 2x + 3y = 21 \\ x = y - 2 \end{cases}$

11. $\begin{cases} 4x - 2y = 8 \\ y = 3x - 2 \end{cases}$

12. $\begin{cases} y = 4x - 1 \\ y = 2x + 5 \end{cases}$