SOLVING SYSTEMS OF EQUATIONS

🔔 BELL WORK 🔔

To solve systems of equations using matrices, both equations must be in standard form. Convert the following equations into standard form:

a) $a = 2b$ b) $l = 2w - 5$ c) $2c - 5 = 4d$ d) $m - n = 4$

Set up a system of equations for each problem below, and solve.

1. Two small pitchers and one large pitcher can hold 8 cups of water. One large pitcher minus one small pitcher constitutes 2 cups of water. How many cups of water can each pitcher hold?

Define variables: Equation: _____

                                       Equation: _____

Solution:_____

2. Margie is responsible for buying a week's supply of food and medication for the dogs and cats at a local shelter. The food and medication for each dog costs twice as much as those supplies for a cat. She needs to feed 164 cats and 24 dogs. Her budget is $4240. How much can Margie spend on each dog for food and medication?

Define variables: Equation: _____

                                       Equation: _____

Solution:_____

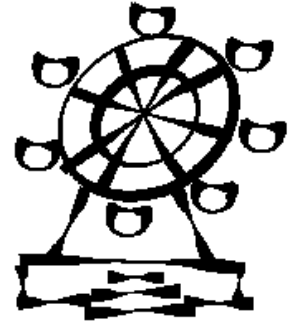**Set up a system of equations for each problem below, and solve.**

3. Bill and Steve decide to spend the afternoon at an amusement park enjoying their favorite activities, the water slide and the gigantic Ferris wheel. Their tickets are stamped each time they slide or ride. At the end of the afternoon they have the following tickets:

Bill's Ticket

Fun Time Amusements

Water Slide: ☑ ☑ ☑

Ferris Wheel: ☑ ☑ ☑

Total: $17.70

Steve's Ticket

Fun Time Amusements

Water Slide: ☑ ☑

Ferris Wheel: ☑ ☑ ☑

Total: $15.55

How much does it cost to ride the Ferris Wheel? How much do es it cost to slide on the Water Slide?

Define variables:

Equation: _____

Equation: _____

Solution:_____

4. A college student needs 11 classes that are worth a total of 40 credits in order to complete her degree. The college offers both 4-credit classes and 3-credit classes. How many 4-credit classes does the student need to take to complete her degree?

Define variables:

Equation: _____

Equation: _____

Solution:_____

Set up a system of equations for each problem below, and solve.

5. There are 142 laptops and desktop computers in a lab. There are 6 more laptops than desktop computers. What is the total number of laptops in the lab?

Define variables:

Equation: _____

Equation: _____

Solution:_____

6. A test has twenty questions worth 100 points. The test consists of True/False questions worth 3 points each and multiple choice questions worth 11 points each. How many multiple choice questions are on the test?

Define variables:

Equation: _____

Equation: _____

Solution:_____

7. Ben has 276 tickets he wants to exchange for prizes at the Chuck E. Cheese booth. At the prize booth, 6 tickets can be exchanged for a bouncy ball, and 3 tickets can be exchanged for 2 pieces of candy. Ben wants 4 times as many pieces of candy as bouncy balls. How many pieces of candy can he get?

Define variables:

Equation: _____

Equation: _____

Solution:_____