

6.4 Translating Linear Systems

SWBAT translate a word problem into a system of linear equations.

Step 1: Read the problem

Step 2: Underline or highlight the _____

Step 3: _____ the _____ (they are found in the question)

Step 4: _____ the problem and _____ the equations

Directions: Assign two variables for each problem, and write the equations. Do not solve.

1. A store receives a shipment of VCRs and CD players. A shipment of 5 VCRs and 4 CD players cost \$1,950. A shipment of 3 VCRs and 6 CD players costs \$2,250. Find the cost of a VCR and the cost of a CD player.

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

2. A basketball team stopped at a fast-food restaurant after a game. They divided into two groups. One group bought 5 chicken sandwiches and 7 hamburgers for a cost of \$24.90. The second group sent \$28.80 and bought 5 chicken sandwiches and 9 hamburgers. How much does a hamburger cost?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

3. A travel agent offers 2 package vacation plans. The first plan costs \$400 and includes 3 days at a hotel and a rental car for 2 day. The second plan costs \$550 and includes 4 days at a hotel and a rental car for 3 days. The daily charge for the room and the car is the same under each plan. Find the cost per day for the room and for the car.

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

4. The Math Club is having their end-of-the-year party. Natasha found that the cafeteria usually makes 200 cups of pineapple-ginger ale fruit punch. The cook told her that if she doubles the pineapple and triples the ginger ale, she will have a total of 420 cups of punch. How many cups of each are needed to make 420 cups of fruit punch?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

5. John has 15 coins, all dimes and quarters, worth \$2.55. How many dimes and how many quarters does John have?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

6. Tickets for the senior play cost \$4 for adults and \$2 for students. This year there were 600 tickets sold, and the class made \$1900. How many of each type of ticket was sold?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

7. A baseball manager bought 4 bats and 9 balls for \$168.75. On another day, he bought 3 bats and 1 dozen balls for \$172.50. How much did he pay for each bat and each ball?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

8. Last year 2713 teachers attended a technology conference. If there were 163 more men than women at the conference, how many men and women were there?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

9. Three pizzas and four sandwiches cost \$34. Three pizzas and seven sandwiches cost \$41.50. How much does a pizza and a sandwich cost?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

10. At an amusement park you get 5 points for each bull's eye you hit, but you lose 10 points for every miss. After 30 tries, Yolanda lost 90 points. How many bull's eyes did she have?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

6.5 Applications of Linear Systems

SWBAT translate a word problem into a system of linear equations and solve.

Step 1: Read the problem

Step 2: Underline or highlight the question

Step 3: Define the variables (they are found in the question)

Step 4: Reread the problem and write the equations

Step 5: Solve!

Directions: Assign two variables for each problem, and write the equations. Solve.

1. At a toy store, the children's department has bicycles and tricycles. There are 50 total, and 111 wheels. How many bicycles are there?

Set Up:

Equations:

Let ____ = _____

Let ____ = _____

SOLVE:

Solving with Money

2. Anna has a pocket of dimes and quarters. If she has 10 coins worth \$1.45, how many of her coins are quarters?

Set Up:

Equations:

Let ____ = _____

Let ____ = _____

SOLVE:

Time

3. In five years, Kate will be twice as old as Joey. Right now, Kate is 11 years older than Joey. How old is Joey right now?

Set Up:

Equations:

Let ____ = _____

Let ____ = _____

SOLVE:

Sum/Difference

4. The sum of two integers is 19 and their difference is 10. What is the smaller of the two integers?

Set Up:

Equations:

Let ____ = _____

Let ____ = _____

SOLVE:

5. The length of a rectangle is 3 less than twice the width. The perimeter is 54. Find the area of the rectangle.

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

SOLVE:

6. The bill for five glasses of apple juice and four salads is \$9.50, but the bill for four glasses of apple juice and five salads is \$10.30. What would be the bill for a glass of juice and a salad?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

SOLVE:

7. Jessica purchased some 20 cents stamps and some 25 cents stamps at the post office. If she paid \$7.75 for 35 stamps, how many of each kind did she purchase?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

SOLVE:

8. The charge of admission to the zoo is \$3.25 for each adult and \$1.50 for each child. On a day when 500 people paid to visit the zoo, the receipts totaled \$1275. Find the number of adult tickets purchased that day?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

SOLVE:

9. Matt has twice as many quarters as dimes in his coin collection. If the dimes and quarters together total \$9.00, how many of each kind of coin does he need?

Set Up:

Equations:

Let _____ = _____

Let _____ = _____

SOLVE: