Howdy!!!!

Mr. Watson

Algebra

What you need:

Pencil

Calculator

Jan 5-3:51 PM

Determine the number of solutions for each letter:
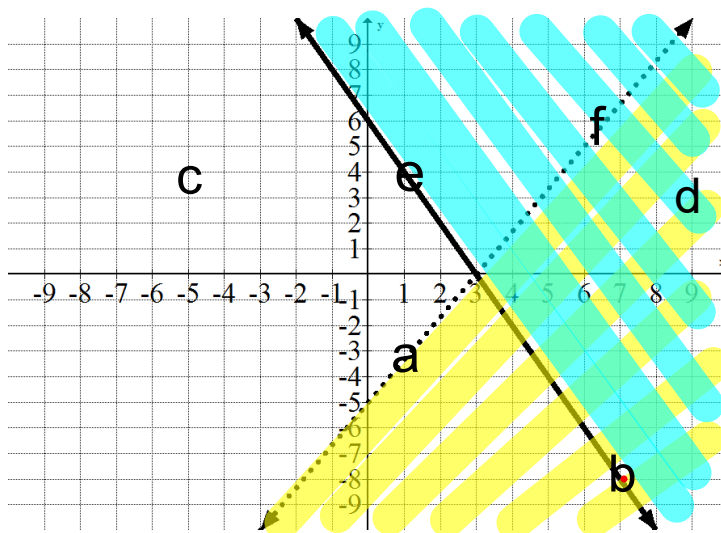
A - None

B- Both

C - None

D = Both

E - Blue

F - Blue

Is the point $(2, 3)$ a solution?

$x \ y$ (above the point)

$$x + y = 5$$

$$2x + 3y = 10$$

$2 + 3 = 5$
$5 = 5$ ✓

$2(2) + 3(3) = 10$
$13 = 10$
No Solution

Solve the following by the indicated method:

Substitution

$$x + 2y = 1$$
$-2y \quad -2y$

$$5x + 3y = -23$$

$x = \boxed{-2y + 1}$

$5(-2y + 1) + 3y = -23$

$-10y + 5 + 3y = -23$

$-7y + 5 = -23$
$-5 \quad -5$

$\dfrac{-7y}{-7} = \dfrac{-28}{-7}$

$\boxed{y = 4}$

$x + 2y = 1$
$x + 2(4) = 1$
$x + 8 = 1$
$\boxed{x = -7}$

Elimination

$$x + 18 = 6y$$

$$2y - x = 6$$

$-6y = -18$
$+2y = 6$
_____
$\dfrac{-4y}{-4} = \dfrac{-12}{-4}$

$\boxed{y = 3}$

$2y - x = 6$
$2(3) - x = 6$
$6 - x = 6$
$-6 \qquad -6$
_____
$-x = 0$
$\boxed{x = 0}$

Feb 18-7:41 AM

Feb 12-3:58 PM

Setting-Up Systems Practice

- Pilots can train in airplanes and on the ground in a flight simulator.
- An experienced private pilot must train for fifty hours to get a commercial license.
- Kara is training for her commercial pilot's license.
- She can afford to spend only $3500 on the required 50 hours of instruction.
- Airplane instruction costs $98 per hour.
- Training in the flight simulator costs only $46 per hour.
- How many hours should she spend in the airplane and on the simulator?

a. Define your variables:

S = # of hours in simulator A = # of hours in airplane

b. Set-up the system:

2 equations

$$S + A = 50$$
$$46S + 98A = 3500.$$

- Sean gets four points for each correct answer on his Biology quiz.
- He loses a point for each wrong answer.
- Sean answered 20 questions and earned 30 points on the quiz.
- How many did Sean answer correctly?

a. Define your variables

C = # of correct W = # of wrong

b. Set-up the system:

$$C + W = 20$$
$$4C - 1W = 30$$

3. The UGA cafeteria charges one price for all main courses and one price for all vegetable dishes. Cerenity took her parents to lunch and had a bill of $8.65 for 3 main courses and 2 vegetable dishes. Greg took a friend to the cafeteria and had a bill of $6.30 for 2 main courses and 2 vegetable dishes. What is the cost of a main course?

a. Define your variables: m = cost of main V = cost of veggie

b. Set-up your system:

$$2V + 3m = 8.65$$
$$2V + 2m = 6.30$$

4. An exam will have 20 questions worth a total of 100 points. There will be True-False questions worth 3 points each and short essay questions worth 11 points each. Several students ask how many essay questions there will be, but the teacher will not tell. Shakir uses Algebra to figure out how many essay questions and T-F questions there are on the exam! Determine the number of essay questions and the number of T-F questions on the exam.

E = # of essay

T = # of T/F

$-3(E + T = 20)$

$11E + 3T = 100$

$-3E - 3T = -60$

$\dfrac{8E}{8} = \dfrac{40}{8}$

$E = 5$

$T = 15$

5. At a county fair, 600 tickets were sold. Adult tickets cost $10 each and tickets for children cost $5 each. If the total money collected from tickets was $4750, how many children's tickets were sold?

A = # of Adult

C = # of Child

$-5(A + C = 600)$

$10A + 5C = 4750$

$-5A - 5C = -3000$

$\dfrac{5A}{5} = \dfrac{1750}{5}$

$A = 350$

$C = 250$

6. Jasmine and Cara went to the mall. They found a sale were shirts were $15.00 and pants were $20.00. If they purchased eight items together for a total bill of $125.00, how many shirts and pants did they purchase?

S = # of Shirts

P = # of Pants

$-15(S + P = 8)$

$15S + 20P = 125$

$-15S - 15P = -120$

$\dfrac{5P}{5} = \dfrac{5}{5}$

$P = 1$

$S = 7$

Sep 10-7:50 AM

AC Coordinate Algebra/Geometry A   Name:_____
                                                Date:_____ Block:_____

Systems of Equations Word Problems

1. You sell tickets for admission to your school play and collect a total of $104. Admission prices are $6 for adults and $4 for children. You sold 21 tickets. How many adult tickets and how many children tickets did you sell?

$$A + C = 21 \qquad\qquad A = 10$$
$$6A + 4C = 104 \qquad C = 11$$

2. Your family goes to a restaurant for dinner. There are 6 people in your family. Some order the chicken dinner for $14.80 and some order the steak dinner for $17. If the total bill was $91, how many people ordered each type of dinner?

$$-17(C + S = 6) \qquad \frac{-2.2C}{-2.2} = \frac{-11}{-11}$$
$$14.80C + 17S = 91$$
$$-17C - 17S = -102 \qquad \boxed{\begin{array}{c} C = 5 \\ S = 1 \end{array}}$$

3. You bought the meat for Saturday's cookout. A package of hot dogs cost $1.60 and a package of hamburger cost $5. You bought a total of 8 packages of meat and you spent $23. How many packages of hamburger meat did you buy?

4. Casey orders 3 pizzas and 2 orders of breadsticks for a total of $29.50. Rachel orders 2 pizzas and 3 orders of breadsticks for a total of $23. How much does a pizza cost?

$$3P + 2B = 29.50 \qquad B =$$
$$2P + 3B = 23 \qquad\quad P = 8.50$$

5. Rent-A-Car rents compact cars for a fixed amount per day plus a fixed amount for each mile driven. Benito rented a car for 6 days, drove it 550 miles, and spent $337. Lisa rented the same car for 3 days, drove it 350 miles, and spends $185. What are the charge per day and the charge per mile for the compact car?

~~Cancun is offering two weekend specials. ... 2 night stay with 3 meals and cost $185 ... with 5 meals and cost $300. What is ... for a single meal?~~

~~... $21 on movie tickets for 2 adults and 3 children ... spent $28 on movie tickets for 2 adults ... adult and child movie~~

8. Jayce bought 2 bath towels and returned 3 hand towels. His sister Jayna bought 3 bath towels and 3 hand towels. Jayce's bill was $5. Jayna's bill was $45. What are the prices of the bath towel and a hand towel?

~~... spent $57 on 4 allergy shots and 1 office ... month she spend $9 after 1 office visit and a ... insurance company. How ... office visit cost? An allergy shot?~~

10. Mr. Nguyen bought a package of 3 chicken legs and a package of 7 chicken wings. Ms. Dawes bought a package of 3 chicken legs and 6 chicken wings. Mr. Nguyen bought 45 ounces of chicken. Ms. Dawes bought 42 ounces of chicken. How much did each chicken leg and each chicken wing weigh?

Practice

Feb 10-7:11 AM

CCGPS Coordinate Algebra
Applications of Systems Homework

Name: _____

Date: _____ Block: _____

~~1. Your family goes to a restaurant for dinner. There are 6 people in your family... order the chicken dinner for $14... ...$17. If the total bill was $81... people ordered each type of dinner?~~

~~2. Casey... and 2 orders of breadsticks for... orders 2 pizzas and... ...sticks for a total of $25. How... ...cost?~~

3. Beach Hotel in Cancun is offering two weekend specials. One includes a 2-night stay with 3 meals and cost $195. The other includes a 3-night stay with 5 meals and cost $300. What is the cost of a single meal?

4. The Lees spent $31 on movie tickets for 2 adults and 3 children. The Macias spent $26 on movie tickets for 2 adults and 2 children. What are the prices for adult and child movie tickets?

5. Last month Stephanie spent $57 on 4 allergy shots and 1 office visit. This month she spent $9 after 1 office visit and a refund for 2 allergy shots from her insurance company. How much does an office visit cost? An allergy shot?

FOLD HERE TO HIDE THE ANSWERS UNTIL YOU WANT TO SEE THEM

ANSWER #1: 5 ordered the chicken dinner and 1 ordered the steak dinner
ANSWER #2: Pizza costs $8.50
ANSWER #3: A single meal costs $15.00
ANSWER #4: $5 for a child ticket and $8 for an adult ticket
ANSWER #5: $25 per office visit and $8 per allergy shot

Go Over Quiz