Solving Problems With Two Variables
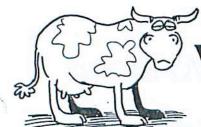
Set up and solve each equation.

Write a system of equations for each of the following problems.

1. A rectangle has a perimeter of 18 cm. Its length is 5 cm greater than its width. Find the dimensions.

2. Timmy has 180 marbles, some plain and some colored. If there are 32 more plain marbles than colored marbles, how many colored marbles does he have?

3. A theater sold 900 tickets to a play. Floor seats cost $12 each and balcony seats $10 each. Total receipts were $9,780. How many of each type of ticket were sold?

4. Ryan and Karl spent 28 hours building a tree house. Ryan worked 4 more hours than Karl. How many hours did each work?

5. The difference between seven times one number and three times a second number is 25. The sum of twice the first and five times the second is 95. Find the numbers.

6. The sum of two numbers is 36. Their difference is 6. Find the numbers.

7. The volleyball club has 41 members. There are 3 more boys than girls. How many girls are there?

8. The sum of two numbers is 15. Twice one number equals 3 times the other. Find the numbers.

What Do You Call A Cow That Never Gives Milk?

1. Four times the larger of two numbers is equal to seven times the smaller. The sum of the numbers is 22. Find the numbers.

2. The difference of two numbers is 15. Five times the smaller is the same as 9 less than twice the larger. Find the numbers.

3. The larger of two numbers is 8 more than twice the smaller. The sum of the numbers is 10 less than three times the larger. Find the numbers.

4. Three lemon cremes plus two fudge cookies have 400 calories. Two lemon cremes plus three fudge cookies have 425 calories. How many calories are in each kind of cookie?

5. The price of a sweater is $5 less than twice the price of a shirt. If four shirts and three sweaters cost $275, find the price of each shirt and each sweater.

6. A geometry teacher has a set of 60 plastic pentagons and octagons. She happened to notice that all the figures together have a total of 354 sides. How many of each shape are there?

7. A group of students goes out to lunch. If two have burritos and five have tacos, the bill will be $19.50. If five have burritos and two have tacos, the bill will be $22.50. Find the price of each taco and each burrito.

8. A shipment of computer monitors, some weighing 25 lb and the others weighing 40 lb each, has a total weight of 680 lb. If there are 20 monitors altogether, how many weigh 40 lb?

9. In Lewis Carroll's *Through the Looking Glass*, Tweedledum says to Tweedledee, "The sum of your weight and twice mine is 361 pounds." Then Tweedledee says to Tweedledum, "Contrariwise, the sum of your weight and twice mine is 362 pounds." Find the weights of Tweedledum and Tweedledee.

PL	AN	IT	TH	UD	AT	OP	DE
70, 95	13	120 lb, 121 lb	14, 8	124 lb, 117 lb	$29, $53	$2.50, $3.50	38, 22
RF	SN	AI	UP	LU	CK	RE	ST
$32, $59	42, 18	75, 90	4, –2	$3.60, $2.25	12	15, 7	22, 7