

An investor has a total of 45 one-ounce ingots, made of either gold or silver, worth \$7636.50. The value of a gold ingot is \$280.00, and the value of a silver ingot is \$4.25.

Which system of equations can be used to find g , the number of gold ingots, and s , the number of silver ingots?

- A** $g - s = 45$
 $280.00g + 4.25s = 7636.50$
- B** $g + s = 45$
 $280.00g + 4.25s = 7636.50$
- C** $g + s = 45$
 $4.25g + 280.00s = 7636.50$
- D** $g - s = 7636.50$
 $280.00g + 4.25s = 45$

July '06 Obj 4 - # 9

An oyster provides approximately 17 calories, and a shrimp provides approximately 26 calories. Jay wants to consume no more than 300 calories eating oysters and shrimp. Which inequality best represents the number of oysters, x , and the number of shrimp, y , that Jay can eat and stay within this limit?

- F** $(17 + 26)(x + y) > 300$
- G** $(17 + x) + (26 + y) > 300$
- H** $(17 + 26)(x + y) \leq 300$
- J** $17x + 26y \leq 300$

July '06 Obj 4 - # 52

A large cheese pizza at Palanzio's Pizzeria costs \$6.80 plus \$0.90 for each topping. The cost of a large cheese pizza at Guido's Pizza is \$7.30 plus \$0.65 for each topping. How many toppings need to be added to a large cheese pizza from Palanzio's Pizzeria and Guido's Pizza in order for the pizzas to cost the same, not including tax?

Record your answer and fill in the bubbles on your answer document.

Be sure to use the correct place value.

July '06 Obj 4 - # 21

Ms. Collins's car traveled between 25 and 29 miles per gallon of gasoline on a recent road trip. If the road trip was 614 miles, which could be the number of gallons of gasoline that Ms. Collins used during this road trip?

- A** 23 gal
- B** 29 gal
- C** 21 gal
- D** 25 gal

July '06 Obj 4 - # 59

If $(5\frac{1}{3}, y)$ is a solution to the equation $5x - 4y - 20 = 0$, what is the value of y ?

- F** $-11\frac{2}{3}$
- G** $8\frac{4}{15}$
- H** $\frac{4}{15}$
- J** $1\frac{2}{3}$

July '06 Obj 4 - # 30

The student council at Jefferson High School sold a total of 220 brownies and cookies during its fundraiser. Each brownie sold for \$0.75, and each cookie sold for \$0.50. The student council made \$136.50 from the sales of brownies and cookies.

Which system of linear equations can be used to find b , the number of brownies sold, and c , the number of cookies sold?

- A** $b + c = 220$
 $0.50b + 0.75c = 136.50$
- B** $b + c = 136.50$
 $0.75b + 0.50c = 220$
- C** $b + c = 136.50$
 $0.50b + 0.75c = 220$
- D** $b + c = 220$
 $0.75b + 0.50c = 136.50$

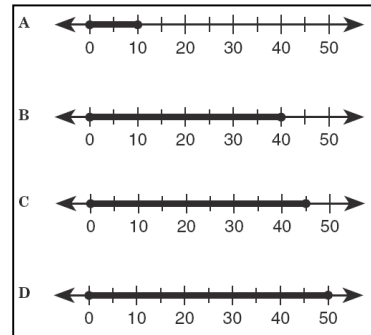
April '06 Obj 4 - # 1

A salesclerk earns \$250 per week plus a commission of $\frac{1}{5}$ of her total sales. If her sales total x dollars, which equation can be used to determine her total weekly earnings?

- A $y = 250\left(x + \frac{1}{5}\right)$
- B $y = 250x + \frac{1}{5}x$
- C $y = 250x + \frac{1}{5}$
- D $y = 250 + \frac{1}{5}x$

April '06 Obj 4 - # 11

Lisa wants to make a long-distance telephone call to her friend. She does not want to spend more than \$5.00 on the telephone call. If there is a \$0.50 connection fee and a charge of \$0.11 per minute, which best represents the number of minutes that Lisa can talk to her friend?



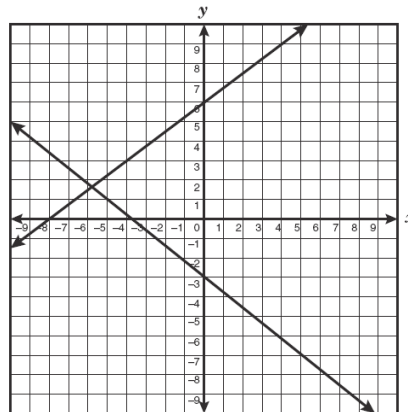
April '06 Obj 4 - # 55

The equation $F = \frac{9}{5}C + 32$ represents the relationship between F , the temperature in degrees Fahrenheit, and C , the temperature in degrees Celsius. If the temperature is 104°F , what is the temperature in degrees Celsius?

Record your answer and fill in the bubbles on your answer document.
Be sure to use the correct place value.

April '06 Obj 4 - # 21

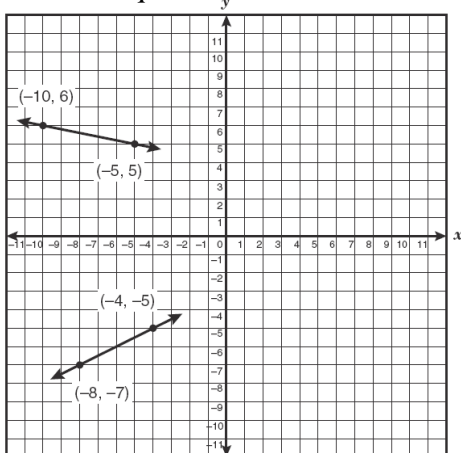
Look at the system of linear equations graphed on the coordinate grid below. Which of the following is closest to the solution to this system of linear equations?



- A $\left(-5\frac{1}{2}, 2\frac{1}{4}\right)$
- B $\left(-5\frac{3}{4}, 1\frac{2}{3}\right)$
- C $\left(-6\frac{1}{4}, 1\frac{3}{4}\right)$
- D $\left(-5\frac{2}{3}, \frac{3}{4}\right)$

Feb '06 Obj 4 - # 9

The graph of a system of linear equations is shown. Which of the following is the solution to this system of linear equations?



- F (0, 4)
- G (8, 1)
- H (0, -3)
- J (10, 2)

April '06 Obj 4 - # 32

Maricella has a bag containing 35 nickels and quarters. The total value of these coins is less than \$2.50. What is the maximum number of quarters that meets these conditions?

- F 10
- G 4
- H 3
- J 9

Feb '06 Obj 4 - # 34

Hoang went to a doughnut shop where jelly-filled doughnuts cost \$0.50 including tax and glazed doughnuts cost \$0.30 including tax. If Hoang has \$2 to spend and wants to purchase at least one of each of these two kinds of doughnuts, which of the following does not represent a reasonable combination of doughnuts that he could purchase?

- A 2 jelly-filled doughnuts and 2 glazed doughnuts
- B 2 jelly-filled doughnuts and 3 glazed doughnuts
- C 3 jelly-filled doughnuts and 2 glazed doughnuts
- D 1 jelly-filled doughnut and 5 glazed doughnuts

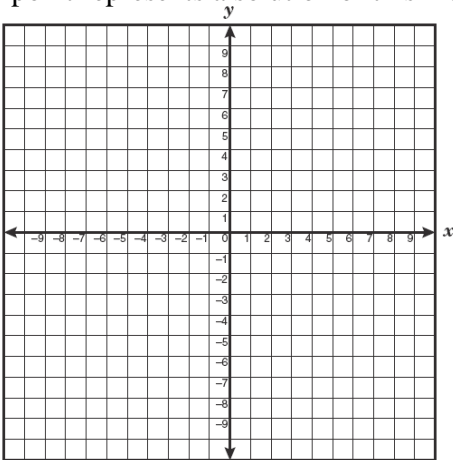
Feb '06 Obj 4 - # 39

Mrs. Travis wants to have a clown deliver balloons to her secretary's office. Clowns R Fun charges \$1.25 per balloon and \$6 for delivery. Singing Balloons charges \$1.95 per balloon and \$2 for delivery. What is the minimum number of balloons Mrs. Travis needs to purchase in order for Clowns R Fun to have a lower price than Singing Balloons?

- A 5
- B 6
- C 11
- D 12

Dec '06 Obj 4 - # 9

Use the grid to graph $y \geq \frac{3}{4}x - 2$. Which coordinate point represents a solution of this inequality?



- A (4, 0)
- B (-3, -5)
- C (7, 2)
- D (-2, 3)

Feb '06 Obj 4 - # 45

An isosceles triangle has legs that are each x inches long and a base that is y inches long. The perimeter of this triangle is 38 inches. The base is 8 inches shorter than the length of a leg. Which system of linear equations can be used to find the length of each of the 3 sides?

- F $2x + y = 38$
 $y = x - 8$
- G $2x + 2y = 38$
 $y = x - 8$
- H $2x + y = 38$
 $x = y - 8$
- J $2x + 2y = 38$
 $x = y - 8$

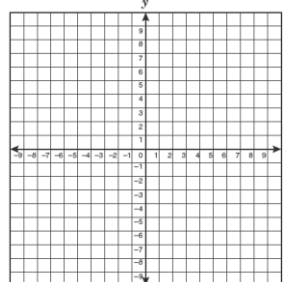
Dec '06 Obj 4 - # 16

A school district held a meeting for all its physical education teachers. The number of women attending was 5 more than twice the number of men attending. A total of 53 teachers attended the meeting. Which system of equations could be used to find w , the number of women, and m , the number of men, at this meeting?

- | | |
|----------------|----------------|
| A $m = 2w + 5$ | C $w = m + 5$ |
| $w + m = 53$ | $w + m = 53$ |
| B $2w + m = 5$ | D $w = 2m + 5$ |
| $w + m = 53$ | $w + m = 53$ |

Feb '06 Obj 4 - # 51

Victor purchased motor oil for \$2 a bottle and car wax for \$4 a bottle. The inequality $2x + 4y < 16$ can be used to determine the number of bottles of motor oil, x , and the number of bottles of car wax, y , Victor purchased for less than \$16, not including tax. Which of the following ordered pairs best represents a reasonable combination of bottles of motor oil and car wax that Victor could have purchased?



- A (4, 2)
- B (2, 3)
- C (5, 2)
- D (3, 2)

Dec '06 Obj 4 - # 41

Some students want to order shirts with their school logo. One company charges \$9.65 per shirt plus a setup fee of \$43. Another company charges \$8.40 per shirt plus a \$58 fee. For what number of shirts would the cost be the same?

- A** 6
- B** 12
- C** 81
- D** 159

Dec '06 Obj 4 - # 17

A certain video rental store rents video games for \$4.99 and movie videos for \$2.99. One day the store rented a total of 35 video games and movie videos. If the total rental income for this day was \$144.65, not including tax, which of the following statements is a reasonable conclusion?

- F** There were more video games than movie videos rented on this day.
- G** There were more movie videos than video games rented on this day.
- H** The total rental income for movie videos on this day was \$99.80, not including tax.
- J** The total rental income for video games on this day was \$74.85, not including tax.

Oct '06 Obj 4 - # 12

The table below shows the relationship between I , the current in milliamperes (mA) through a filament, and t , the filament's temperature in degrees Celsius. Which equation best represents the relationship between the quantities in the table?

Temperature, t (°C)	Current, I (mA)
80	320
90	360
100	400
110	440

- A** $I = \frac{1}{4}t$
- B** $I = \frac{1}{40}t$
- C** $I = 40t$
- D** $I = 4t$

Dec '06 Obj 4 - # 53

William completed x math homework problems after eating dinner. Had he completed 6 more math problems, William would have finished $\frac{2}{3}$ of his math homework. If y represents the total number of math homework problems, which equation best represents the relationship between x and y ?

- A** $x + 6 = \frac{2}{3}y$
- B** $x = \frac{2}{3}y + 6$
- C** $x = \frac{2}{3}(y + 6)$
- D** $\frac{2}{3}x + 6 = y$

Oct '06 Obj 4 - # 29

Lon caught 24 trout and bass while on a fishing trip. The total weight of his catch was 137 pounds. The average weight of a trout was 2.5 pounds, and the average weight of a bass was 8 pounds. Which system of equations can be used to find t , the number of trout, and b , the number of bass, that Lon caught?

- A** $t = 24 + b$
 $2.5t + 8b = 137$
- B** $t + b = 24$
 $2.5t + 8b = 137$
- C** $t + b = 137$
 $2.5t + 8b = 24$
- D** $t = 137 + b$
 $2.5t + 8b = 24$

Oct '06 Obj 4 - # 1

The equations of two lines are $6x - y = 4$ and $y = 4x + 2$. What is the value of x in the solution for this system of equations?

- A** $x = 14$
- B** $x = 3$
- C** $x = 1$
- D** $x = 6$

Oct '06 Obj 4 - # 45

The Future Teachers of America club sold cookies for \$0.25 each and cupcakes for \$0.50 each to raise money to attend the state convention. If the club raised \$24.75 from selling cookies and cupcakes during lunchtime, which of the following is a reasonable combination of the number of cupcakes and cookies that were sold?

- A** 24 cookies and 51 cupcakes
- B** 50 cookies and 25 cupcakes
- C** 51 cookies and 24 cupcakes
- D** 35 cookies and 30 cupcakes

Oct '06 Obj 4 - # 59