

HIGH SCHOOL Math TEKS FOCUS

Objective Four

Algebra (b1A)

Describe independent and dependent quantities in functional relationships

- 30** The number of hours Abe practices golf each week, g , is 2 more than the number of hours he runs, r . Which equation represents the number of hours he runs each week?

F $r = g - 2$

G $g = r - 2$

H $g = 2r$

J $r = g + 2$

9th Grade 2003

- 50** Passengers on many commercial flights may make calls from a telephone provided by the airline. On a certain airline a call costs \$3 to connect plus \$2 for each minute. Which equation best represents c , the total cost for a call that lasts m minutes?

F $m = 3 + 2c$

G $c = 3 + 2m$

H $m = 2 + 3c$

J $c = 2 + 3m$

9th Grade 2003

- 7** A weather balloon is launched from a height of 475 feet above sea level. If the balloon rises at a constant rate of 85 feet per minute, which equation could be used to determine t , the time in minutes it will take the balloon to reach a height of 9245 feet above sea level?

A $9245 = 85 + 475t$

B $9245 = 85(t + 475)$

C $9245 = 475 + 85t$

D $9245 = (475 + 85)t$

9th Grade 2004

- 4** At Northwest Electronics audiotapes cost \$5.00 per package, and videotapes cost \$10.00 per package. Which inequality best describes the number of packages of audiotapes, a , and the number of packages of videotapes, v , that can be purchased for \$45.00 or less?

F $5a + 10v < 45$

G $10a + 5v \leq 45$

H $5a + 10v \leq 45$

J $10a + 5v < 45$

10th Grade 2003

- 14** Rita put some hummingbird feeders in her backyard. The table shows the number of hummingbirds that Rita saw compared to the number of feeders.

Bird-Watching

Number of Feeders	Number of Hummingbirds
1	3
2	5
3	7
4	9
5	11

Which equation best describes the relationship between h , the number of hummingbirds, and f , the number of feeders?

F $h = 2f + 1$

G $f = 2h + 1$

H $h = f + 2$

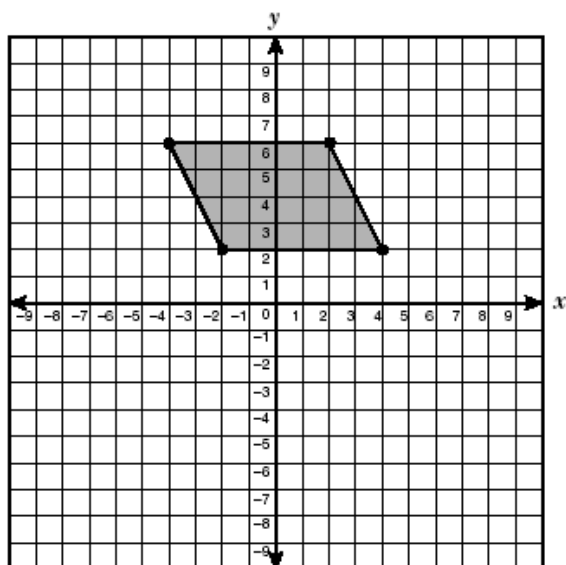
J $f = \frac{h + 1}{2} + 1$

10th Grade 2004

High School Math TEKS Focus

Objective Four

- 18 A shaded parallelogram is graphed on the coordinate grid below.



Which of the following functions describes a line that would include an edge of the shaded parallelogram?

- F $y = -2x + 5$
- G $y = -2x - 2$
- H $y = -2x + 9$
- J $y = -2x - 1$

10th Grade 2004

- 56 On Wednesdays an athlete's schedule allows no more than 75 minutes for morning training. One round of a strength routine, s , requires 8 minutes. One round of an endurance routine, e , requires 12 minutes. Which of these best represents the time available for the athlete to spend on strength and endurance routines on Wednesdays?

- F $20(s + e) > 75$
- G $8s = 75 - 12e$
- H $8s + 12e \leq 75$
- J $12e < 75 + 8s$

11th Grade 2004

Algebra(c3B)

Investigate methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, select a method, and solve the equations and inequalities

- 8 Auto-Check Motors charged Mr. Jones \$84.00 for an automotive part plus \$68.00 per hour that a mechanic worked to install the part. The total charge was \$353.00. For about how long did the mechanic work to install the part on Mr. Jones's car?

- F 6 h
- G 5 h
- H 4 h
- J 3 h

9th Grade 2003

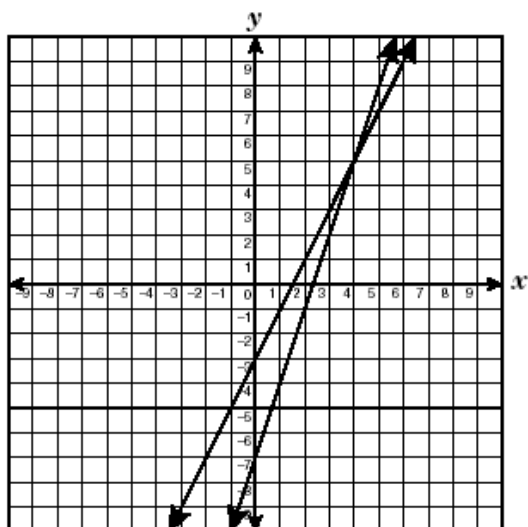
- 17 If $(x, -4)$ is a solution to the equation $4x - 5y = 8$, what is the value of x ?

- A -4.8
- B -3
- C 1.6
- D 7

9th Grade 2004

HIGH SCHOOL Math TEKS FOCUS Objective Four

- 36 The graphs of the linear equations $y = 2x - 3$ and $y = 3x - 7$ are shown below.



If $2x - 3 = 3x - 7$, what is the value of x ?

- F 4
- G 5
- H 9
- J 10

9th Grade 2004

- 34 What is the value of y if $(3, y)$ is a solution to the equation $5x - 3y = 18$?

- F 3
- G 1
- H -1
- J -11

10th Grade 2003

- 35 Anna makes hand-painted plates. Her overhead costs are \$750 per week, and she pays an additional \$10 per plate in material costs. If Anna sells the plates for \$25 each, how many plates does she have to sell each week before she can make a profit?

- A 20
- B 30
- C 50
- D 75

11th Grade 2003

- 60 Ms. Barton determined that the total cost of her wedding, c , could be represented by the equation $c = 75n + 1500$, where n is the number of people attending the wedding. If Ms. Barton's wedding cost \$8625, how many people attended the wedding?

- F 135
- G 95
- H 115
- J 75

11th Grade 2004

High School Math TEKS Focus Objective Four

Algebra(c3C)

(For given contexts) interpret and determine the reasonableness of solutions to linear equations and inequalities

- 40 The cost of renting a DVD at a certain store is described by the function

$$f(x) = 4x + 3$$

in which $f(x)$ is the cost and x is the time in days. If Lupe has \$12 to spend, what is the maximum number of days that she can rent a single DVD if tax is not considered?

- F 1
- G 2
- H 3
- J 7

9th Grade 2003

- 5 A recycling center pays \$0.35 per pound of glass that it receives. If students at Falcon High School want to raise \$500 in a glass-recycling project, what is a reasonable number of pounds of glass they must collect?

- A 750 lb
- B 175 lb
- C 500 lb
- D 1500 lb

9th Grade 2004

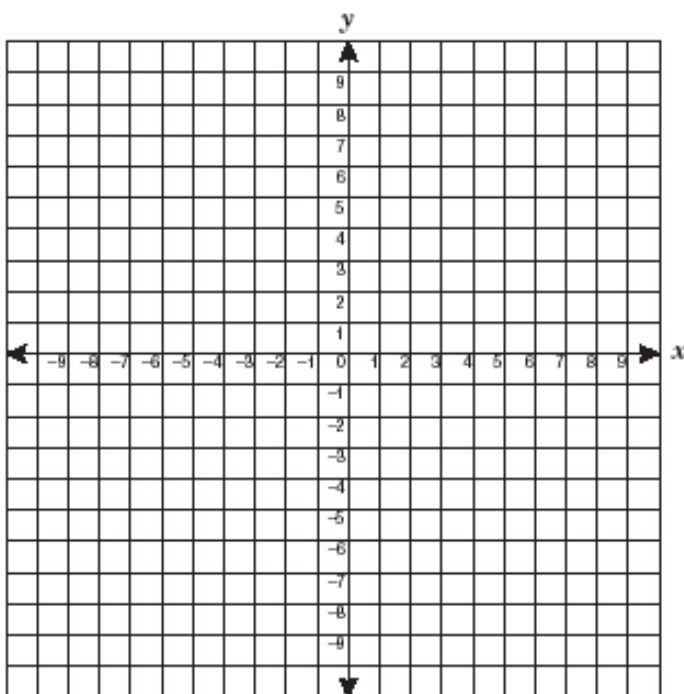
- 46 In 1998 the enrollment at a community college was approximately 2500 students. In 2002 the enrollment had increased to 3250 students. If the enrollment continues to increase at this rate, what is a reasonable projection of enrollment for 2010?

- F 4750
- G 5750
- H 6250
- J 9000

10th Grade 2004

High School Math TEKS Focus Objective Four

- 23 Valerie purchased x tubes of lipstick at \$4 each and y bottles of nail polish at \$2 each. She spent less than \$12, not including tax. Use the grid below to graph the inequality $4x + 2y < 12$.



Which point represents a reasonable number of lipsticks and bottles of nail polish that Valerie purchased?

- A (1, 5)
- B (2, 3)
- C (1, 3)
- D (2, 2)

11th Grade 2003

- 48 The amount of an employee's weekly pay, p , including a bonus, can be represented by the inequality $6.00h + 100 < p < 6.50h + 125$, where h represents the number of hours worked by the employee. If an employee worked 25 hours, which of the following is a reasonable amount for that week's pay?

- F \$118.75
- G \$250.00
- H \$272.50
- J \$290.25

11th Grade 2004

High School Math TEKS Focus Objective Four

Algebra(c4A)

analyze situations and formulate systems of linear equations to solve problems

- 13 Ms. Kitts works at a music store. Last week she sold 6 more than 3 times the number of CDs that she sold this week. Ms. Kitts sold a total of 108 CDs over the 2 weeks. Which system of equations can be used to find l , the number of CDs she sold last week, and t , the number of CDs she sold this week?

A $l + t = 108$
 $t = 3l + 6$

B $l + t = 108$
 $t = 3l - 6$

C $l + t = 108$
 $l = 3t - 6$

D $l + t = 108$
 $l = 3t + 6$

9th Grade 2003

- 39 The Frosty Ice-Cream Shop sells sundaes for \$2 and banana splits for \$3. On a hot summer day, the shop sold 8 more sundaes than banana splits and made \$156. Which system of equations could be used to find the number of sundaes, s , and banana splits, b , that the shop sold that day?

A $2s + 3b = 156$
 $s = b + 8$

B $2b + 3s = 156$
 $s + b = 8$

C $2s + 3b = 8$
 $s = b + 156$

D $2s + 3b = 156$
 $b - s = 8$

9th Grade 2004

- 20 The length of a rectangle is equal to triple the width. Which system of equations can be used to find the dimensions of the rectangle if the perimeter is 85 centimeters?

F $l = w + 3$
 $2(l + w) = 85$

G $l = 3w$
 $2l + 6w = 85$

H $l = 3w$
 $2(l + w) = 85$

J $l = w + 3$
 $2l + 6w = 85$

10th Grade 2003

High School Math TEKS Focus Objective Four

- 3 At a restaurant the cost for a breakfast taco and a small glass of milk is \$2.10. The cost for 2 tacos and 3 small glasses of milk is \$5.15. Which pair of equations can be used to determine t , the cost of a taco, and m , the cost of a small glass of milk?

A $t + m = 2.10$
 $2t + 2m = 5.15$

B $t + m = 2.10$
 $3t + 3m = 5.15$

C $t + m = 2.10$
 $3t + 2m = 5.15$

D $t + m = 2.10$
 $2t + 3m = 5.15$

11th Grade 2003

- 40 At a college bookstore, Carla purchased a math textbook and a novel that cost a total of \$54, not including tax. If the price of the math textbook, m , is \$8 more than 3 times the price of the novel, n , which system of linear equations could be used to determine the price of each book?

F $m + n = 8$
 $m = 3n + 54$

G $m + n = 8$
 $m = 3n - 54$

H $m + n = 54$
 $m = 3n + 8$

J $m + n = 54$
 $m = 3n - 8$

11th Grade 2004

- 53 The price, e , of an entertainment system at Extreme Electronics is \$220 less than twice the price, u , of the same system at Ultra Electronics. The difference in price between the system at Extreme Electronics and Ultra Electronics is \$175. Which system of linear equations can be used to determine the price of the system at each store?

A $2e - u = 220$
 $e - u = -175$

B $2e - u = 220$
 $e + u = 175$

C $2e - 2u = 440$
 $e - u = -175$

D $e - 2u = -220$
 $e - u = 175$

11th Grade 2004

High School Math TEKS Focus Objective Four

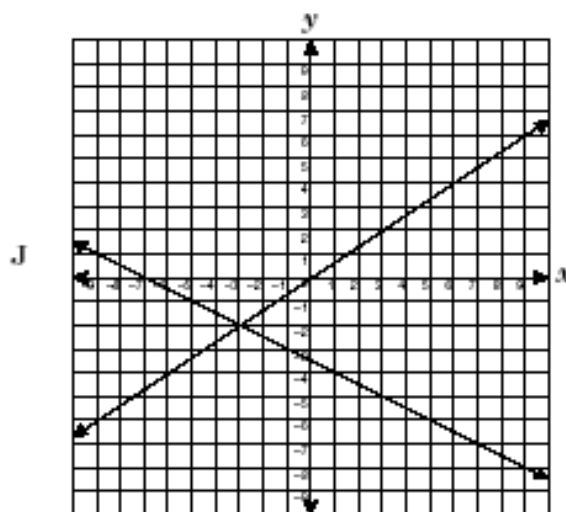
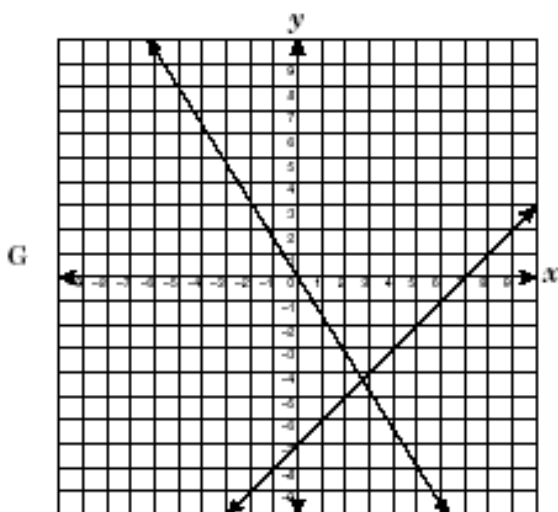
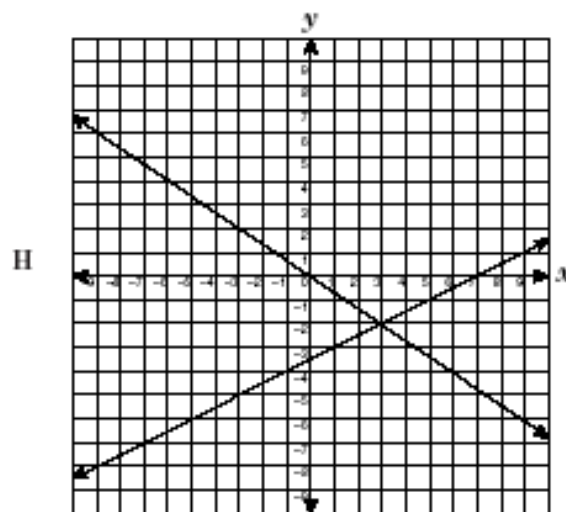
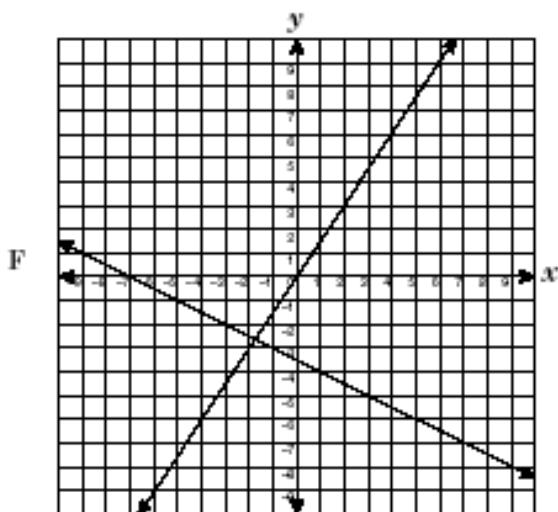
Algebra (b1E)

Interpret and make inferences from functional relationships

36 Which graph best represents a solution to this system of equations?

$$2x - 3y = 0$$

$$x + 2y = -7$$



10th Grade 2003

HIGH SCHOOL Math TEKS FOCUS Objective Four

47 Marcos had 15 coins in nickels and quarters. He had 3 more quarters than nickels. He wrote a system of equations to represent this situation, letting x represent the number of nickels and y represent the number of quarters. Then he solved the system by graphing. What is the solution?

- A (6, 9)
- B (5, 10)
- C (9, 6)
- D (10, 5)

10th Grade 2003

24 What is the x -coordinate of the solution to the system of linear equations below?

$$\begin{aligned} 4x + 5y &= 8 \\ 2x - 3y &= -18 \end{aligned}$$

- F -4
- G -3
- H 3
- J 4

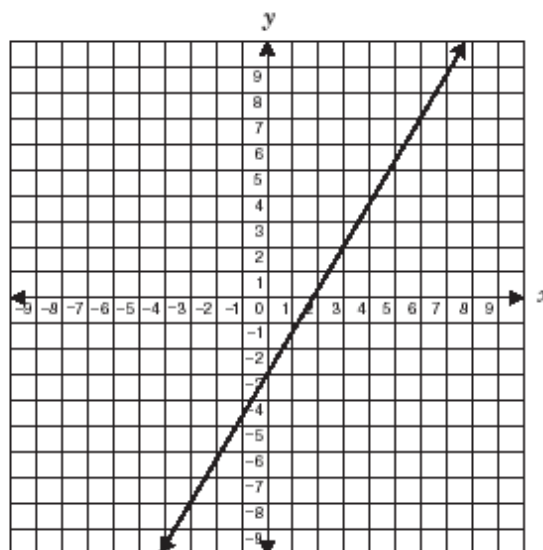
10th Grade 2004

46 At a firefighters' pancake breakfast, the firefighters served 345 people and raised \$1395. If the cost of a , an adult's ticket to the pancake breakfast, was \$5 and the cost of c , a child's ticket, was \$3, what was the number of adult tickets sold?

- F 165
- G 180
- H 279
- J 345

11th Grade 2003

29 The graph of the equation $y = \frac{5}{3}x - 3$ is given below. Graph $y = x + 1$ on the grid.



What is the solution to this system of equations?

- A (0, 1)
- B (5, 6)
- C (6, 7)
- D No solution

11th Grade 2004

Algebra(c4C)

(For given contexts) interpret and determine the reasonableness of solutions to linear equations

No Test Items Available