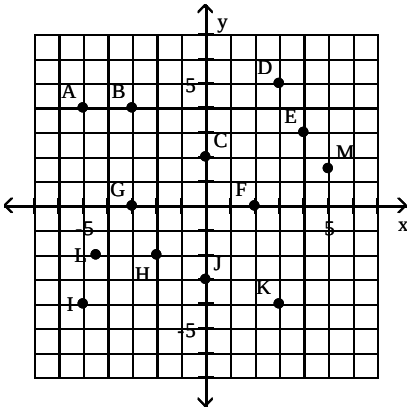
Review 2

Determine the coordinates of the indicated point on the graph.



1) G 1) _____

A) (–3, 0) B) (0, 3) C) (0, –3) D) (3, 0)

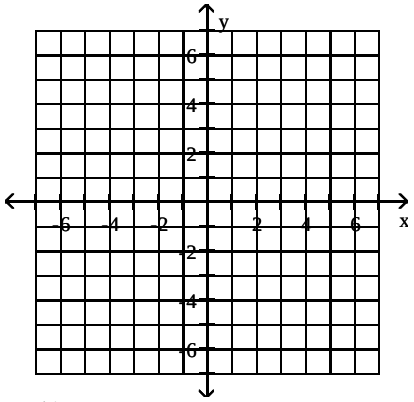
Name the quadrant or axis in which the point lies.

2) (9, –3) 2) _____

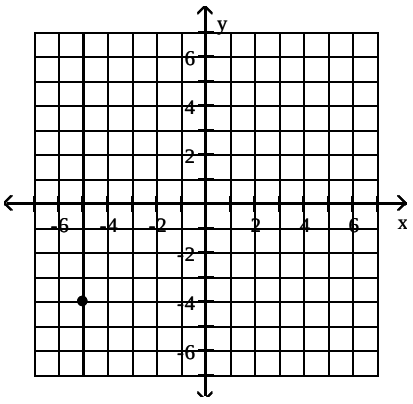
A) quadrant I B) quadrant II C) quadrant III D) quadrant IV

Plot the point.

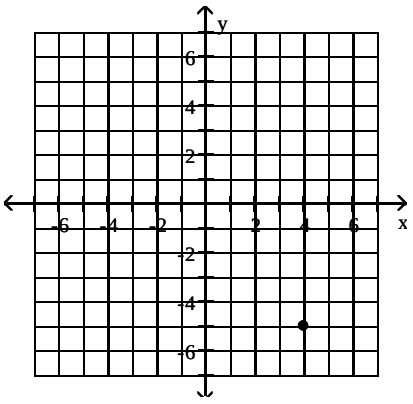
3) (–5, 4) 3) _____



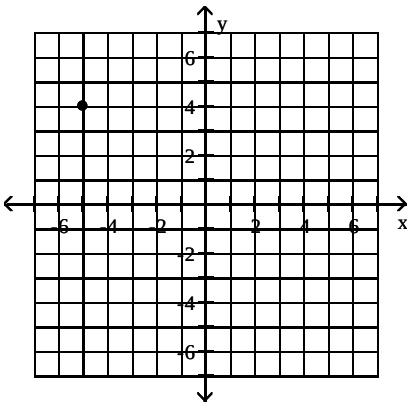
A)



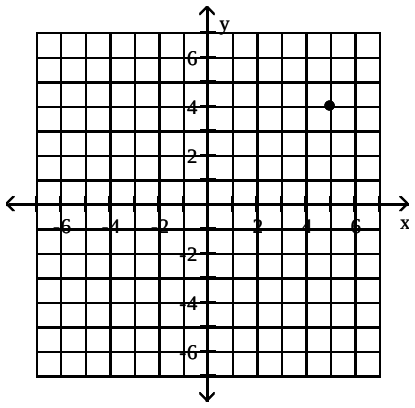
B)



C)



D)



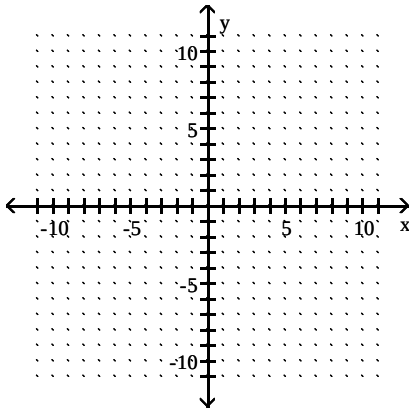
Determine whether the ordered pair is a solution of the given equation.

4) $y = -4x - 6; (-2, 14)$ 4) _____

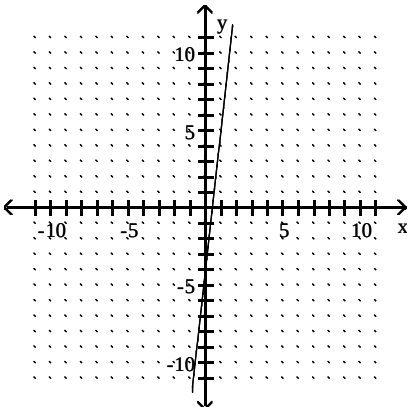
A) No B) Yes

Graph the equation.

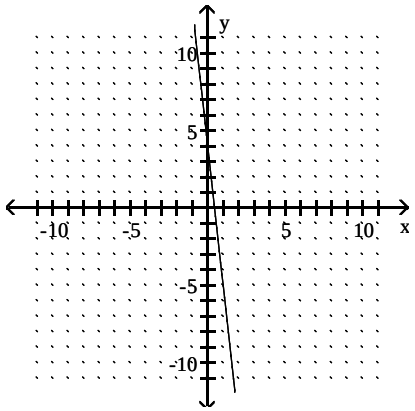
5) $-9x - y = -4$ 5) _____



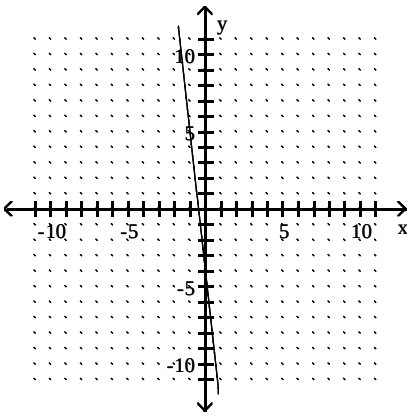
A)



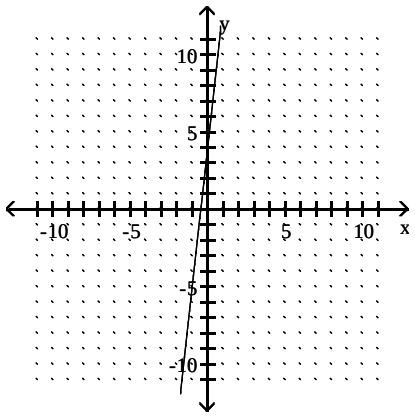
B)



C)



D)



Find the domain and range.

6) {(−8, −2), (−4, 1), (11, −5), (−6, −1), (12, 4)} 6) _____

A) domain = {12, 4, −5, −2, −4}; range = {−6, 1, −1, 11, −8}
B) domain = {1, −8, −5, 11, −2}; range = {−6, −1, 12, 4, −4}
C) domain = {4, −2, 1, −1, −5}; range = {12, −8, −4, −6, 11}
D) domain = {−8, −4, 11, −6, 12}; range = {1, −5, −1, 4, −2}

Find the domain and the range of the relation. Then determine whether the relation is a function.

7) 7) _____

Input: patient	Output: allergy
Alice	fur
Brad	dust
Carl	milk

A) domain: {Alice, Brad, Carl}
range: {fur, dust, milk}
function

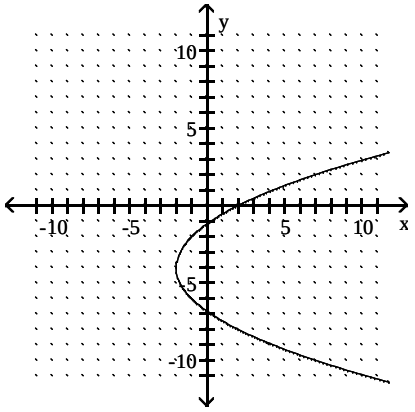
B) domain: {Alice, Brad, Carl}
range: {fur, dust, milk}
not a function

C) domain: {fur, dust, milk}
range: {Alice, Brad, Carl}
function

D) domain: {fur, dust, milk}
range: {Alice, Brad, Carl}
not a function

Use the vertical line test to determine whether the graph is the graph of a function.

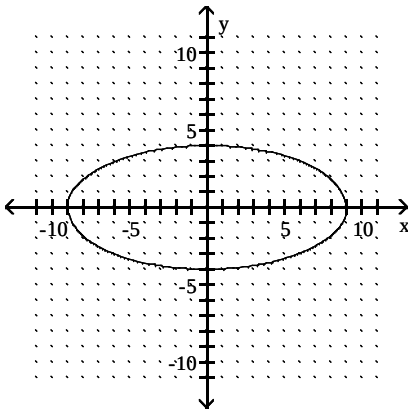
8) 8) _____



A) function B) not a function

Find the domain and the range of the relation. Use the vertical line test to determine whether the graph is the graph of a function.

9) 9) _____



A) domain: [−4, 4]
range: [−9, 9]
not a function

B) domain: [−9, 9]
range: [−4, 4]
not a function

C) domain: [−4, 4]
range: [−9, 9]
function

D) domain: [−9, 9]
range: [−4, 4]
function

Find the indicated value.

10) Find f(−6) when f(x) = −4.8(x + 5.3) 10) _____

A) 33.9 B) 3.36 C) 3.16 D) 34.1

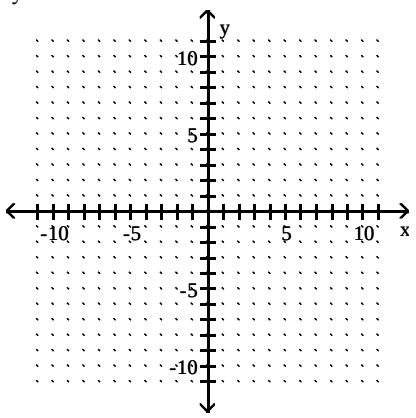
Solve.

11) The monthly cost of a certain long distance service is given by the linear function C(t) = 0.04t + 9.95 where C(t) is in dollars and t is the amount of time in minutes called in a month. Find the cost of calling long distance for 80 minutes in a month. 11) _____

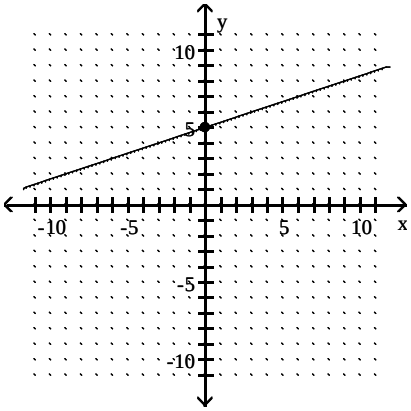
A) $12.15 B) $3.20 C) $17.95 D) $13.15

Graph the function by finding x– and y–intercepts.

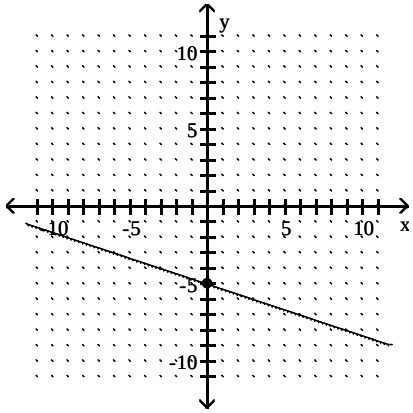
12) $x + 3y = 15$ 12) _____



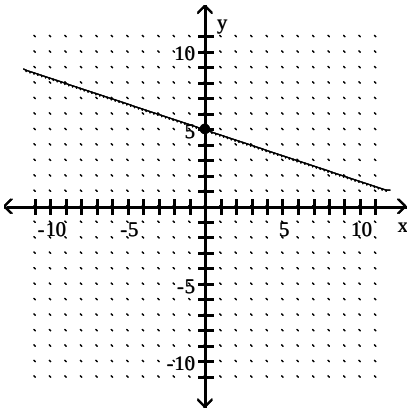
A)



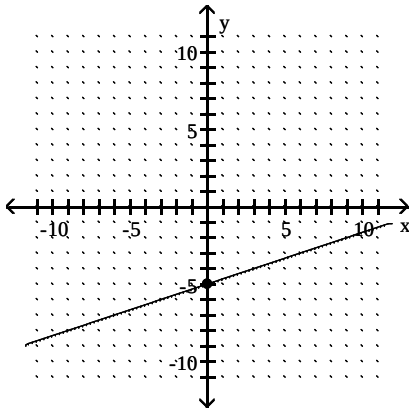
B)



C)

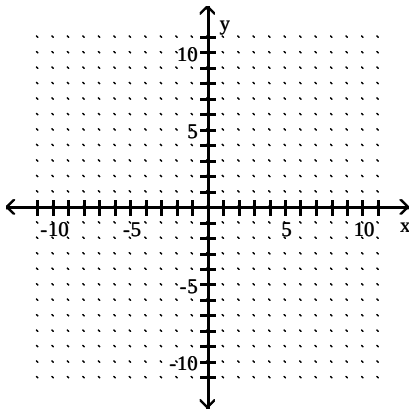


D)

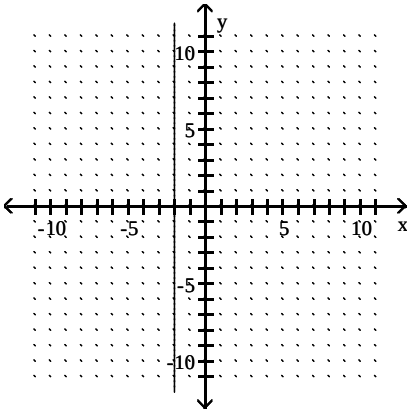


Graph the equation.

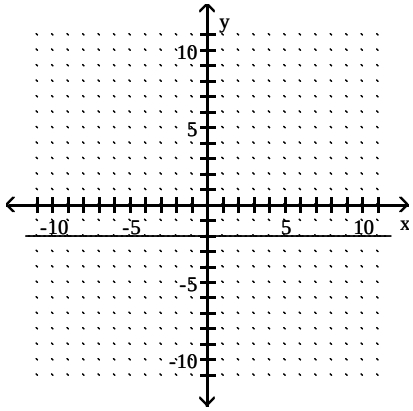
13) $y + 2 = 0$ 13) _____



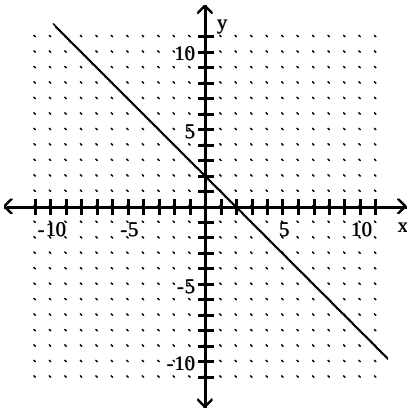
A)



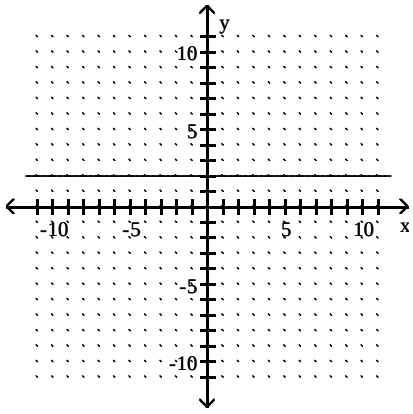
B)



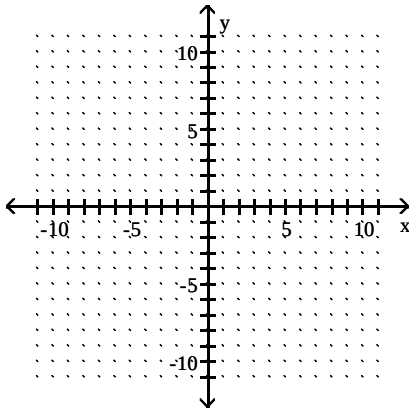
C)



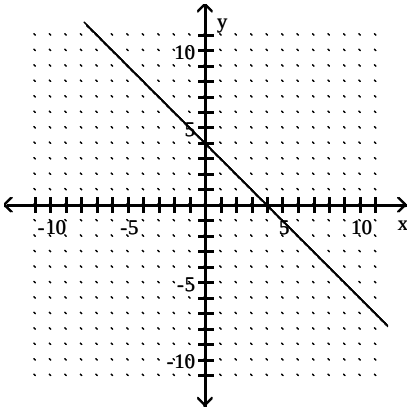
D)



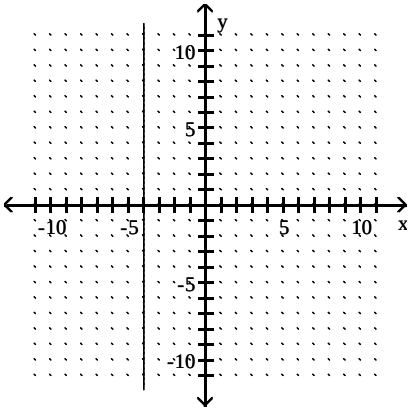
14) $x + 4 = 0$ 14) _____



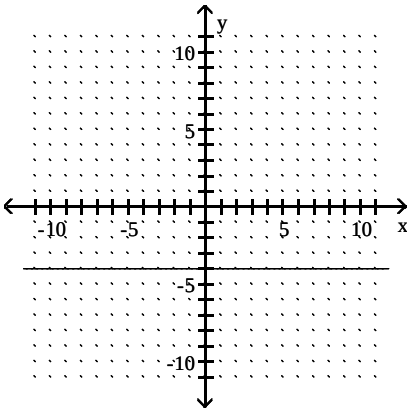
A)



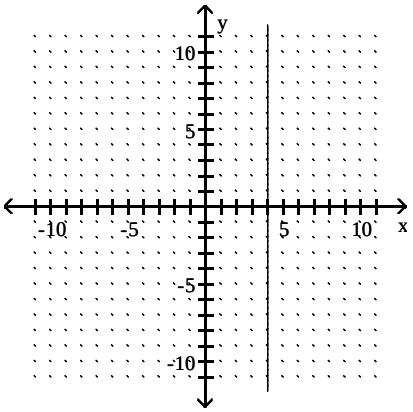
B)



C)



D)



Find the slope of the line that goes through the given points.

15) (5, 0), (0, 3) 15) _____

A) $\frac{3}{5}$ B) $-\frac{5}{3}$ C) $-\frac{3}{5}$ D) $\frac{5}{3}$

Find the slope of the line.

16) $3x + 2y = 13$ 16) _____

A) $-\frac{3}{2}$ B) $\frac{2}{3}$ C) $\frac{13}{2}$ D) $\frac{3}{2}$

Solve the problem.

17) When a tow truck is called, the cost of the service is given by the linear function $y = 3x + 80$, where y is in dollars and x is the number of miles the car is towed. Find and interpret the slope and y–intercept of the linear equation. 17) _____

A) m = 3; The number of miles the car is towed increases 3 miles for every dollar spent on the service. b = 80; The tow truck will tow the car 80 miles for no cost.

B) m = 3; The cost of the service increases $3 every mile the car is towed. b = 80; The cost of the service is $80 if the car is not towed.

C) m = 80; The cost of the service increases $80 every mile the car is towed. b = 3; The cost of the service is $3 if the car is not towed.

D) m = 80; The number of miles the car is towed increases 80 miles for every dollar spent on the service. b = 3; The tow truck will tow the car 3 miles for no cost.

Find the slope of the line that goes through the given points.

18) (3, –3), (3, 8) 18) _____

A) $\frac{5}{6}$ B) 0 C) $-\frac{11}{6}$ D) undefined

Find the slope of the line.

19) $y + 2 = 0$ 19) _____

A) 0 B) –2 C) 2 D) undefined

Determine whether the lines are parallel, perpendicular, or neither.

20) $f(x) = -6x - 8$ 20) _____
$g(x) = 6x + 7$

A) parallel B) perpendicular C) neither

Solve the problem.

21) Find the slope of a line perpendicular to the line $-5x - 6y = 3$. 21) _____

A) 3 B) $\frac{6}{5}$ C) undefined D) $-\frac{6}{5}$

Use the slope–intercept form of the linear equation to write the equation of the line with the given slope and y –intercept.

22) Slope $\frac{2}{5}$; y–intercept (0, 1) 22) _____

A) $y = -\frac{5}{2}x + 1$ B) $y = \frac{2}{5}x + 1$ C) $y = -\frac{5}{2}x - 1$ D) $y = \frac{2}{5}x - 1$

Find an equation of the line. Write the equation in standard form.

23) Through (9, –28) and (1, 4) 23) _____

A) $x - 4y = 8$ B) $4x + y = 8$ C) $x + 4y = 8$ D) $-4x + y = 8$

Find an equation of the line. Write the equation using function notation.

24) Through (3, –4); perpendicular to $x + 5y = -5$ 24) _____

A) $f(x) = 5x - 11$ B) $f(x) = \frac{1}{5}x - \frac{23}{5}$

C) $f(x) = 5x - 19$ D) $f(x) = -\frac{1}{5}x - \frac{23}{5}$

Find an equation of the line. Write the equation in standard form.

25) Through (3, 3); parallel to $9x + 2y = 2$ 25) _____

A) $9x + 2y = 33$ B) $2x + 9y = 33$ C) $2x - 9y = 33$ D) $9x - 2y = 33$

Determine whether the ordered pair is a solution of the system of linear equations.

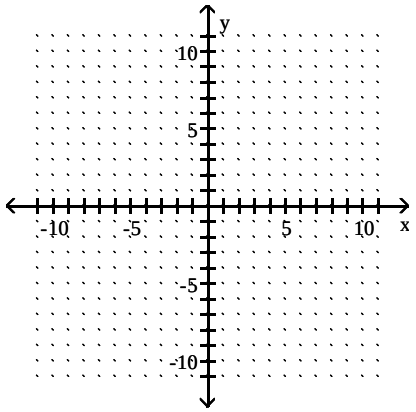
26) (4, –6), $\begin{cases} x + y = -10 \\ x - y = 2 \end{cases}$ 26) _____

A) Yes B) No

Solve the system by graphing.

27) 27) _____

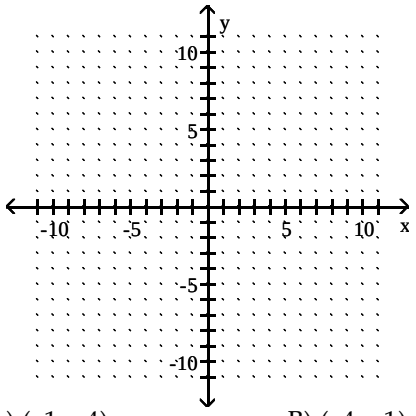
$\begin{cases} x - y = -1 \\ x + 2y = -13 \end{cases}$



A) (–5, 4) B) (–4, 5) C) (–4, –5) D) (–5, –4)

28) 28) _____

$\begin{cases} 4y + 4 = 0 \\ x - 3y = -1 \end{cases}$



A) (–1, –4) B) (–4, –1) C) (–1, 4) D) (–4, 1)

Solve the system of equations.

29) 29) _____

$\begin{cases} x + y = -2 \\ y = -3x \end{cases}$

A) (–1, 3) B) (1, 3) C) (1, –3) D) (–1, –3)

30) $\begin{cases} x - 2y = 3 \\ -6x - 3y = -63 \end{cases}$ 30) _____

A) (–9, 4) B) (8, 4) C) (9, 3) D) ∅

31) $\begin{cases} x - 5y = -34 \\ 2x - 5y = -28 \end{cases}$ 31) _____

A) (8, 6) B) (6, 8) C) (–8, 6) D) ∅

32) $\begin{cases} \frac{1}{x} + y = 35 \\ \frac{6}{x} + y = 65 \end{cases}$ 32) _____

A) $\left(\frac{1}{6}, -29\right)$ B) $\left(-\frac{1}{6}, -29\right)$ C) $\left(29, \frac{1}{6}\right)$ D) $\left(\frac{1}{6}, 29\right)$

Solve.

33) One number is 1 less than a second number. Twice the second number is 4 less than 3 times the first. Find the two numbers. 33) _____

A) 5 and 6 B) 6 and 7 C) –7 and –6 D) 7 and 8

34) Two cars leave a city and head in the same direction. After 6 hours, the faster car is 18 miles ahead of the slower car. The slower car has traveled 282 miles. Find the speeds of the two cars. 34) _____

A) 30 mph and 33 mph
B) 49 mph and 52 mph
C) 44 mph and 47 mph
D) 47 mph and 50 mph

35) The manager of a bulk foods establishment sells a trail mix for $7 per pound and premium cashews for $15 per pound. The manager wishes to make a 480–pound trail mix–cashew mixture that will sell for $8 per pound. How many pounds of each should be used? 35) _____

A) 420 pounds of trail mix
60 pounds of cashews
B) 60 pounds of trail mix
420 pounds of cashews
C) 240 pounds of trail mix
240 pounds of cashews
D) 270 pounds of trail mix
210 pounds of cashews

36) A vendor sells hot dogs and bags of potato chips. A customer buys 2 hot dogs and 5 bags of potato chips for $8.00. Another customer buys 3 hot dogs and 3 bags of potato chips for $7.50. Find the cost of each item. 36) _____

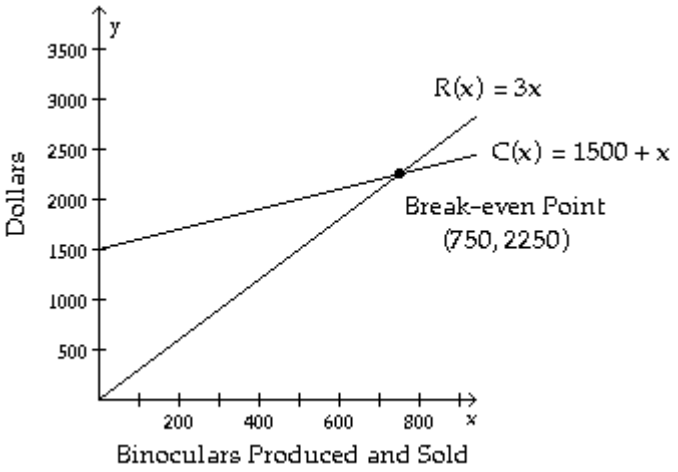
A) $1.50 for a hot dog; $1.00 for a bag of potato chips
B) $1.00 for a hot dog; $1.50 for a bag of potato chips
C) $1.50 for a hot dog; $1.25 for a bag of potato chips
D) $1.75 for a hot dog; $1.25 for a bag of potato chips

Given the cost function, C(x), and the revenue function, R(x), find the number of units x that must be sold to break even.

37) $C(x) = 2000x + 33{,}000$ 37) _____
$R(x) = 5000x$

A) 11 units B) 13 units C) 12 units D) 5 units

The figure shows the graphs of the cost and revenue functions for a company that manufactures and sells binoculars. Use the information in the figure to answer the question.



38) How many binoculars must be produced and sold for the company to break even? 38) _____

A) 1500 binoculars B) 750 binoculars C) 2700 binoculars D) 2250 binoculars

39) At the break–even point both cost and revenue are what? 39) _____

A) $2700 B) $1500 C) $2250 D) $750

Fill in the blank with one of the words or phrases listed below.

matrix	**consistent**	**system of equations**
solution	**inconsistent**	**square**

40) A(n) _____ system of equations has at least one solution. 40) _____

A) consistent B) inconsistent C) matrix D) square

Answer Key
Testname: REVIEW 2

1) A
2) D
3) C
4) A
5) B
6) D
7) B
8) B
9) B
10) B
11) D
12) C
13) B
14) B
15) C
16) A
17) B
18) D
19) A
20) C
21) B
22) B
23) B
24) C
25) A
26) B
27) D
28) B
29) C
30) C
31) B
32) D
33) B
34) D
35) A
36) A
37) A
38) B
39) C
40) A