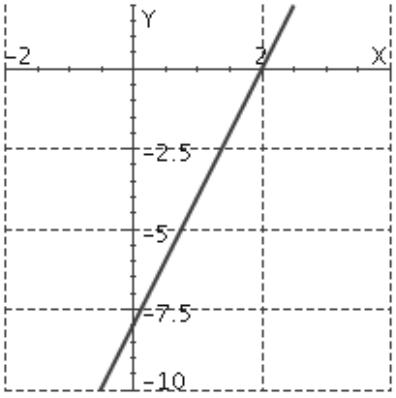
Name_____ Class_____ Date_____

1 The equation was graphed by intercept method. The graph is given below. Find the equation.

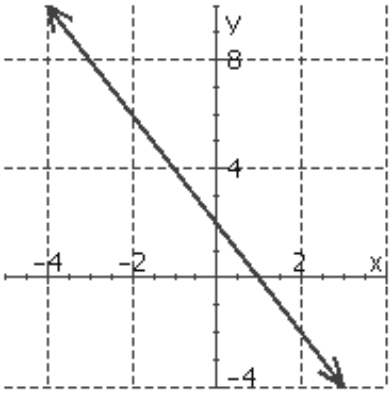


a. $4x - y = 8$ b. $4x + y = 8$ c. $x - 4y = 8$ d. $8x - y = 4$

2 The graph below is a graph of $y = -2x + 2$.

Use the graph to solve:

$$-2x + 2 > 8$$



a. $x < -7$ b. $x > -3$ c. $x > -7$ d. $x < -3$

3 Graph the following equation on your calculator with the ZInteger setting. (Press ZOOM 6, and then ZOOM 8 ENTER.) Use the graph to answer the question. Use the equation to verify your answers.

$$y = 6.7 - 1.1x$$

For what value of x is $y \geq 0.1$?

a. $x \leq 6$ b. $x \geq 8$ c. $x \leq 8$ d. $x \geq 6$

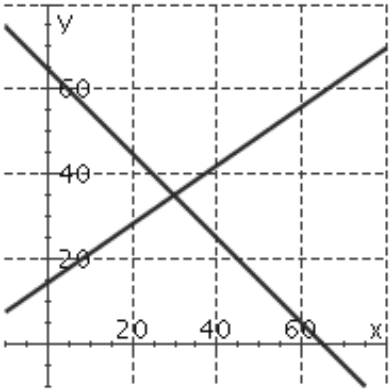
4 State the slope of the line.

$$y = 9$$

a. $m = 9$ b. $m = -9$ c. $m = 0$ d. m is undefined

5 Solve the system of equations using the graph given. Verify algebraically that your solution satisfies both equations.

$$23x - 33y = -465$$
$$37x + 37y = 2405$$



a. (63, 13) b. (35, 30) c. (9, 46) d. (30, 35)

6 Use linear combinations to identify the system.

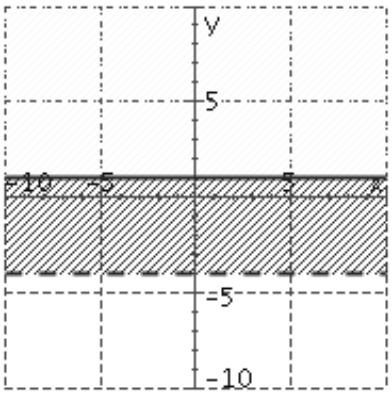
$$\begin{cases} 4x = q + 7 \\ 32x - 8q = 6 \end{cases}$$

a. Inconsistent b. Consistent

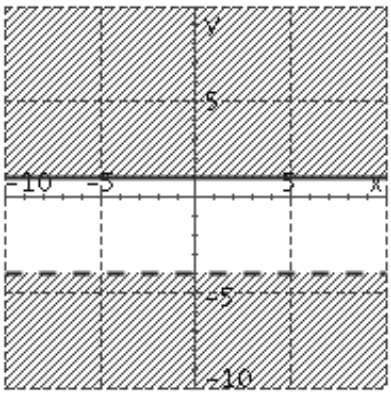
7 Graph the inequality.

$$-4 < y \leq 1$$

a.



c.



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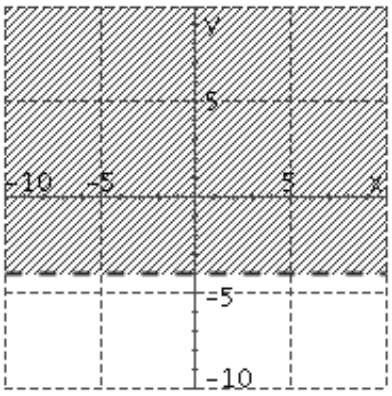
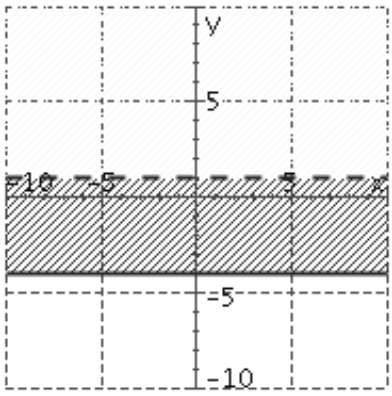
continuation

b.



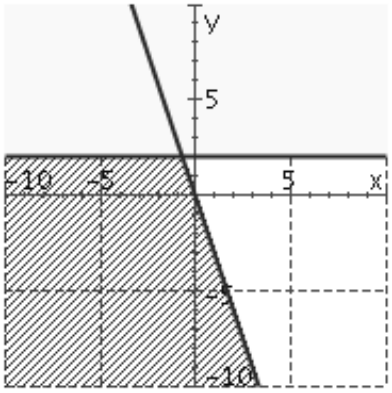
d.



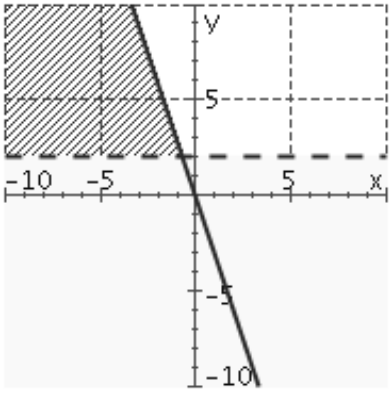
8 Graph the system of inequalities.

$$y \geq -3x$$
$$y < 2$$

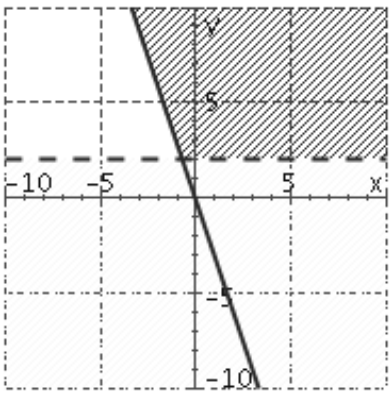
a.



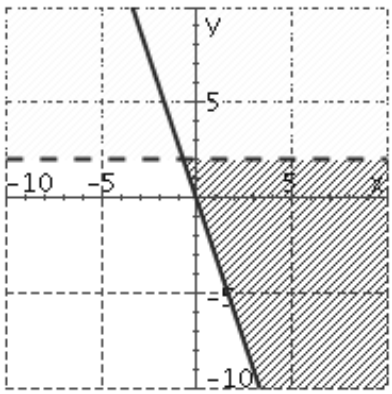
c.



b.



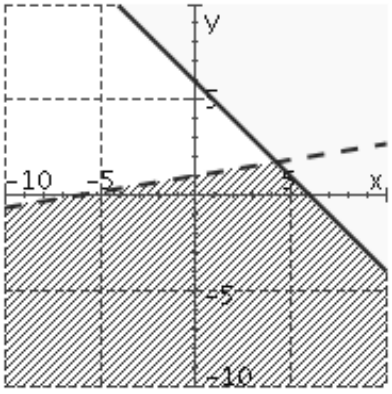
d.



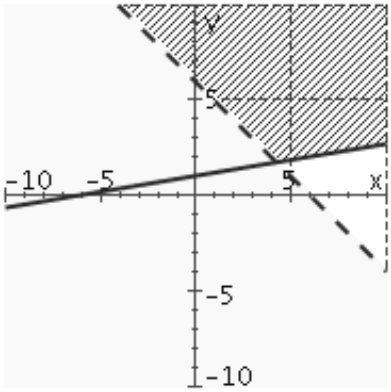
9 Graph the system of inequalities.

$$6y - x < 6$$
$$x + y \leq 6$$

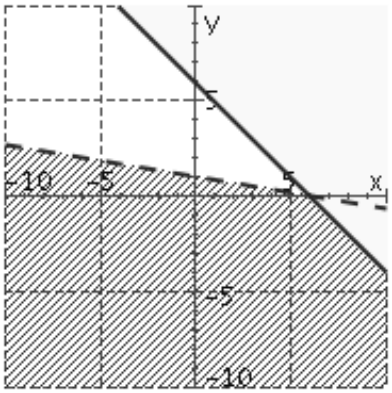
a.



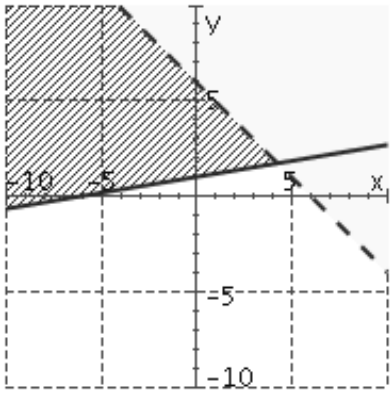
c.



b.



d.

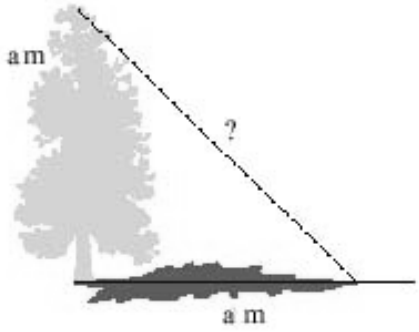


10 Solve by extracting roots. Give exact values for your answers.

$$7x^2 - 49 = 0$$

a. $x = 49$ b. $x = \pm\sqrt{7}$ c. $x = \pm\frac{\sqrt{49}}{49}$

11 If a 25 - meter pine tree casts a shadow of 25 meters, how far is the tip of the shadow from the top of the tree? (See the picture).



a. 60.4 meters b. 35.4 meters c. 625.0 meters

12 Solve by extraction of roots.

$$(x - 5)^2 = 16$$

a. $x_1 = 14, x_2 = -4$ b. $x_1 = 3, x_2 = 3.2$ c. $x_1 = 9, x_2 = 1$

13 Michael stands at the top of a 384-foot cliff and throws his algebra book directly upward with a velocity of 32 feet per second. The height of his book above the ground t seconds later is given by the formula

$$h = -16t^2 + 32t + 384$$

where h is in feet. How long will it take Michael's book to hit the ground at the bottom of the cliff?

a. 2 sec b. 6 sec c. 4 sec d. 10 sec

14 Factor completely.

$$64t^3 + 100t$$

a. $4t(4t^2 - 5)$ b. $4t(16t^2 + 25)$ c. $4t(4t - 5)(4t + 5)$ d. $4t(4t + 5)^2$

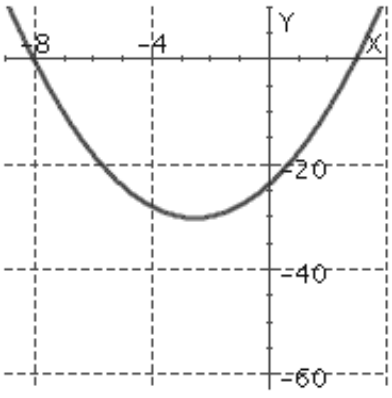
15 Solve the equation by factoring.

$$a^2 + 7a - 18 = 0$$

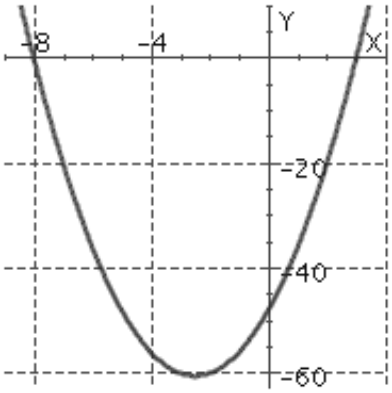
a. $a_1 = -2, a_2 = -9$ b. $a_1 = -2, a_2 = 9$ c. $a_1 = 2, a_2 = -9$ d. $a_1 = 2, a_2 = 9$

16 Find the x - intercepts of the following graphs.

$$y = x^2 + 5x - 24$$



$$y = 2(x^2 + 5x - 24)$$



a. $x_1 = -8, x_2 = 3$ b. $x_1 = 8, x_2 = -3$ c. $x_1 = -8, x_2 = -3$ d. $x_1 = 8, x_2 = 3$

17 Write a quadratic equation whose solutions are given. The equation should be in standard form with integer coefficients.

- 8 and 3

a. $x^2 + 8x - 24 = 0$ c. $8x^2 + 5x - 24 = 0$

b. $x^2 + 5x + 3 = 0$ d. $x^2 + 5x - 24 = 0$

18 Find the x - intercepts and the vertex of the graph.

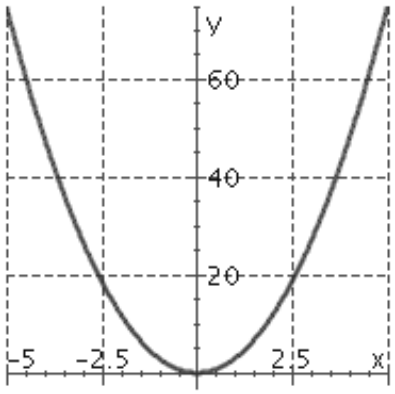
$$y = -3x^2 - 12x$$

a. (-4, 0), (4, 0); (2, 12) b. (0, 0), (-4, 0); (-2, 12) c. (0, 0), (4, 0); (2, 12)

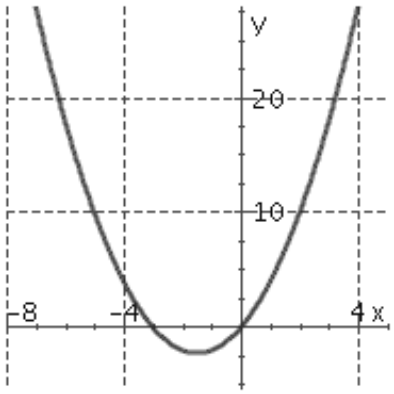
19 Find the graph of the given equation.

$$y = x^2 + 3$$

a.



c.



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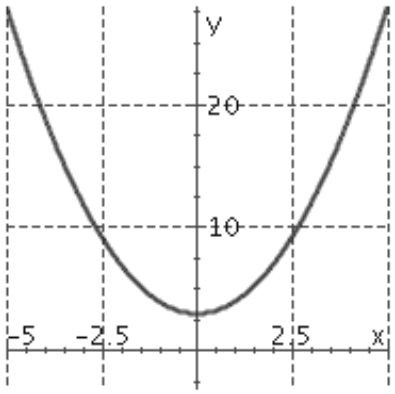
b.



20 Use the quadratic formula to solve the equation for *W*.

$$A = 2W^2 + 5LW$$

a. $W = \dfrac{L \pm \sqrt{(15L)^2 + 8A}}{4}$

c. $W = \dfrac{5L \pm \sqrt{5L + 8A}}{2}$

b. $W = \dfrac{-5L \pm \sqrt{5L - 16A}}{4}$

d. $W = \dfrac{-5L \pm \sqrt{(5L)^2 + 8A}}{4}$

21 The data show sales of in-line skates at a sporting goods store at the beach.

Year	***1990***	***1991***	***1992***	***1993***	***1994***
Skates sold	***52***	***72***	***96***	***124***	***156***

Use the values for 1991 through 1993 to fit a quadratic equation to the data, where *t* is measured in years since 1990.

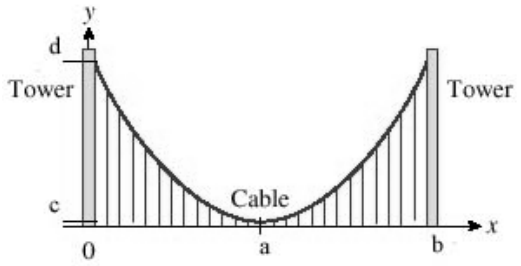
$$S = at^2 + bt + c$$

a. $S = 2t^2 + 18t + 52$

b. $S = 2t^2 - 70t - 52$

c. $S = 36t^2 - 936t + 2$

22 The cables on a suspension bridge hang in the shape of parabolas. Imagine a coordinate system superimposed on a diagram of a suspension bridge, as shown in the picture. Each of the towers is $d = 350$ feet high, and the span between the towers is $b = 3000$ feet long. At its lowest point, the cable hangs $c = 20$ feet above the roadway. Find the coordinates of the vertex.



a. (1500, 1520) b. (1500, 20) c. (3000, 350)

23 Solve the following system algebraically.

$$y = x^2 - 2x + 2$$
$$y = x^2 - 7x + 12$$

Select the correct answer(s).

a. (-2, 10) b. (3, 5) c. (2, 2) d. The system has no solution. e. (2, -2)

24 Write the set with interval notation.

$$-4 < x \leq 9$$

a. $(-\infty, -4) \cup [9, \infty)$ b. $(-4, 9]$ c. $(-\infty, -4] \cup (9, \infty)$ d. $[-4, 9)$

25 Write the set with interval notation.

$$-8 \leq x < -5 \text{ or } -2 < x \leq 0$$

a. $(-8, 0)$ c. $(-8, -5] \cup [-2, 0)$

b. $[-8, 0]$ d. $[-8, -5) \cup (-2, 0]$

ANSWER KEY

Rev. of F ch 1-4

1. a	**2.** d	**3.** a	**4.** c	**5.** d	**6.** a	**7.** a	**8.** d	**9.** a
10. b	**11.** b	**12.** c	**13.** b	**14.** b	**15.** c	**16.** a	**17.** d	**18.** b
19. b	**20.** d	**21.** a	**22.** b	**23.** c	**24.** b	**25.** d		