

Find the solution to each system of equations by graphing.

1. $y = -\frac{1}{2}x$
 $y = 2x + 5$

2. $y = 4$
 $2x - 5y = 40$

3. $y = 3x - 3$
 $y = -x + 5$

4. $x = -3$
 $6x + 18y = 36$

Without graphing determine if each system of equations has ONE, NONE, or MANY solutions.

5. $y = 2x - 6$
 $y = -\frac{1}{2}x + 3$

6. $y = -\frac{1}{4}x + 5$
 $2x + 8y = 40$

7. $y = 3x + 2$
 $18x - 6y = 24$

8. $x = 6$
 $6x + 2y = 8$

Solve each system of equations using substitution.

9. $y = 4x + 3$
 $y = -2x + 15$

10. $y = 3x - 8$
 $7x + 2y = 101$

11. $y = 2x + 5$
 $4x - 3y = -24$

12. $x + y = 4$
 $6x - 9y = 24$

Solve each system of equations using elimination.

13. $4x + 3y = 6$
 $4x + 8y = -4$

14. $7x - 2y = 40$
 $5x + 2y = 32$

15. $9x + 5y = 37$
 $x + 2y = 7$

16. $10x + 9y = 25$
 $4x - 3y = -23$

17. $6x + 7y = 34$
 $4x + 11y = 48$

18. One day you went to the store and bought 3 shirts and 4 hats for \$96. Another day, when the price of each was the same, you bought 5 shirts and 6 hats for \$150. Write and solve a system of equations to find the cost of a shirt and the cost of a hat.

19. The number of calories I burn per mile when I run is five more than twice the number of calories I burn per mile when I walk. I ran 2 miles and walked 3 miles and burned a total of 430 calories. Write and solve a system of equations to find the number of calories I burn per mile for walking and for running.

1. $(-2, 1)$

2. $(3, 4)$

3. $(2, 3)$

4. $(-3, 3)$

5. One

6. Many

7. None

8. One

9. $(2, 11)$

10. $(9, 19)$

11. $(4.5, 14)$

12. $(4, 0)$

13. $(3, -2)$

14. $(6, 1)$

15. $(3, 2)$

16. $(-2, 5)$

17. $(1, 4)$

18. Shirts are \$12 each and hats are \$15 each.

19. Walking burns 60 cal/mi and running burns 125 cal/mi.

Sec 6-6 Review Spring 2016

1. Use the table below and a graphing calculator. Round decimals to the nearest hundredth.

# Hours	Gallons of Water
2	225
5	248
9	401
19	611
23	767

- Find the equation of the trendline.
- Make a scatter plot of this data using the graphing calculator. Graph the line with the scatter plot. Sketch the scatter plot and the trendline.
- Predict the number of gallons you will have in 13 hours.
- Predict the number of hours it will take to reach 2000 gallons.

Answers

1. a. $y = 25.75x + 151.69$

c. 486.44 gallons

d. approximately 71.78 hours

b.

