

Practice 18

For use with Section 3-2

Solve each system by substitution.

1. $y = x + 1$
 $y = -x + 2$

4. $q = -p - 2$
 $q = 5p + 16$

7. $3c + d = 3$
 $-c - 2d = 4$

10. $f = \frac{2}{3}e - 5$
 $e + 2f = 4$

2. $v = u - 5$
 $v = 3u + 7$

5. $m + n = -4$
 $2m + n = 5$

8. $x - 3y = 9$
 $2x + y = -3$

11. $a + \frac{3}{2}b = 1$
 $2a - b = -6$

3. $b = 2a$
 $b = 5a - 15$

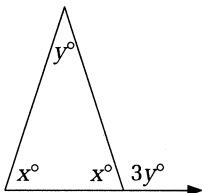
6. $s - 2t = 7$
 $2s + 3t = 7$

9. $k = \frac{1}{2}j + 11$
 $j - k = -13$

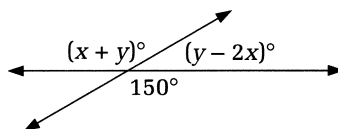
12. $3x - 2y = 5$
 $x + 4y = 4$

Find x and y in each situation.

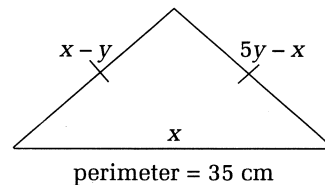
13.



14.



15.



16. Ten years ago Cleon and Kanisha Ray invested \$4500 in two companies: Cyberdyne and Compunetics. The Cyberdyne stock tripled and the Compunetics stock doubled, and now their investment is worth \$11,100. How much did they invest in each company?
17. One day, Ji Hoon Kwon's grocery store sold 70 bars of soap, some for \$.85, some with a 25-cent-off coupon for \$.60. A total of \$50 was taken in from the sale of bars of soap, but the cashier lost the coupons. How many bars of soap were sold with coupons?
18. Julieta Guzman ran a marathon of 26 miles in 3.5 h. During part of the time she ran at 6 mi/h, and for the rest of the time she ran at 8 mi/h. How long did she run at each speed?
19. **Writing** Suppose you want to solve a system of linear equations by the substitution method. Describe a method for deciding which variable to substitute for, based on the nature of the two equations. Suppose a problem asks you to find only one of the two variables. Which one should you substitute for?