1. Alisha's brother is 6 years younger than Alisha. Alisha is 5 years younger than her sister. Alisha's brother is 10 years old. Write an equation to find how old Alisha and her sister are.

2. $14 = 9a - 4$ 3. $-9(x + 4) + 56 = -3x - 4$

4. The formula for the Perimeter of a rectangle is P = 2L + 2W. Solve for W.

5. Solve $6y + 13b = 59$ for y.   6. $\frac{1}{4}\left(3y + 2\right) = 7$

7. $7x - 29 - 21x = 3 - (12 + 2x)$ 8. $5n - 2(n - 2) = -11$

9. $x + 2 = -4x + 7$ 10. $\frac{4}{p} = \frac{48}{3}$

11. $\frac{1}{3}(6x+3) = 2x-5$

12. $-\frac{5}{2}(w-1) = 15$

13. Rachel wants to earn $700 selling 27 knit scarves. She wants to sell each scarf for $3 less than her competitor. If x is the price charged by her competitor, write and solve an equation that models the situation?
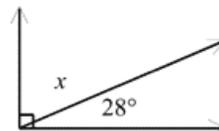
14. $-3n + 18 + 5n = 38$

15. $\frac{5}{11}y + 30 = 0$

16. Write $4 + 6y = 12x - 2$ as a function of x.

17. $\frac{3}{4}x = 48$

18. If the sum of the two angles is 90 degrees, write an equation to find the value of x.

19. You helped a friend move a short distance recently. The friend rented a truck for $15 an hour and rented a dolly for $5. Your friend paid a total of $80 for the rental. For how long did you rent the truck?

20. A rental car agency charges $12 per day plus $.10 per mile to rent a certain car. Another agency charges $15 per day plus $.08 per mile to rent the same type of car. How many miles per day will have to be driven for the cost of a car from the first agency to equal the cost of a car from the second agency?

21. A boxing club charges nonmembers $4 per day to workout and $10 per day for equipment rental. Members pay a yearly fee of $400 and a daily fee of $5 for equipment rental. Write and solve an equation to determine how many times you should use the gym to justify membership.

22. $-1.1x - 4 = 0.8$

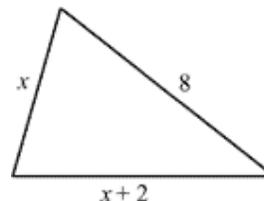23. Write the equation as a function of x:
$$6x - 3y = 12$$

24. $\dfrac{3}{x} = \dfrac{2}{x-6}$

25. $\dfrac{-49}{7} = \dfrac{a+7}{6}$

26. An architectural firm makes a model of a science center they are building. The ratio of the model to the actual size is 1 in: 85 ft. Estimate the height of the building if the model is 1.5 inches tall.

27. A factory that makes remote-control airplanes can paint 14 models with 11.2 ounces of paint. How many models can be painted with 5 pints of paint?

28. The triangle below has a perimeter of 20. Solve for x.

29. Solve the formula $V = \dfrac{Bh}{3}$ for **B**.

30. $4.1x - 1.3 = 0.7x + 25.9$

31. The Fahrenheit and Celsius scales are related by the equation $F = \dfrac{9}{5}C + 32$. What temperature Celsius is equal to a body temperature of $97.8°$ F?

32. Solve the proportion: $\dfrac{1}{9} = \dfrac{a}{a+24}$

33. $-4(2w-5) = 3w - 13$

34. The Chin family is having new carpet installed in the dining room. The carpet costs $249 for installation and $9 for each square yard. Find the number of square yards of carpet installed if the total cost is $465. If the Chin family has $500 to spend, can they afford to have 30 square yards of carpet installed?

35. Gorge has 5 more than twice the number of DVDs as Ahmed. Kaitlin has 3 less than three times as many as Ahmed. Kaitlin has the same number of DVDs as Gorge. How many DVDs does each person have?