Solve the equation. Justify each step.

1. 

Solve the equation. Determine whether the equation has one solution,
no solution, or infinitely many solutions.

1. 
2. 
3. 

Describe the values of *c* for which the equation has no solution.

1. 

**Find the value of the variable. Then find the angle measures of the polygon**

1.

 Sum of angle measures: 

 Solve the equation.

1. 
2. 
3. 

Solve the literal equation for *y*.

1. 

Solve

11. The formula for the volume of a cylinder is 

 a. Solve the formula for the height *h*.

 b. A cylinder has a volume of 628 cubic inches and a radius of 10 inches. What is the height of the cylinder rounded to the nearest inch?

12. The measures of two angles of a triangle are each four times the measure of the third angle. What is the measure of the third angle?

 13. At a book fair, a tote bag costs $5 and books cost $3.50 each. You spend a total of $19 before taxes. How many books did you buy in addition to the tote bag?

14. For a school play, the maximum age for a youth ticket is 18 years old. The minimum age is 10 years old. Write an absolute value equation for which
the two solutions are the minimum and maximum ages for a youth ticket.

15. Your business needs to print brochures. You call two different print shops about prices. Each print shop charges a set-up fee for preparing the brochure and a price per brochure.

 a. The total cost is the same for
each company. How many
brochures is your business
printing?

|  |  |  |
| --- | --- | --- |
|  | Brochureset-up fee | Price perbrochure |
| Company A | $50 | $1.50 |
| Company B | $75 | $1.00 |

 b. You decide to increase the
number of brochures. From
which company should you
order?

Write the sentence as an inequality.

**16.** The sum of twice a number n and 8 is at most 25.

**17.** The temperature t is at least 

**Write an inequality that represents the graph**

**18**. 

Solve the inequality. Graph the solution.

**19.** 

Solve the inequality.

**20.**  **21.** 

**22.**  23. 

24.  25. 

Write and graph a compound inequality that represents the numbers that
are *NOT* solutions of the inequality represented by the graph shown.

26.

27. You need to write an essay that has at least 500 words. You have written
285 words so far. Write and solve an inequality that represents the number
of words *w* that you have left to write.

 28. You need at least 30 cubic feet of sand to fill a sand box. Each bag contains 2.5 cubic feet of sand. Write and solve an inequality that represents the number of bags *b* that you need to buy.

 29. You are planning a school carnival. The equipment costs $180 to rent. You plan to charge $4.00 per ticket. You would like to have a profit of at least $500. Write and solve an inequality that represents the number of tickets *t* that you need to sell.

 30. You want to purchase a calculator for at most $115. You have saved $30 so far. You earn $7.50 per hour at your job. Write and solve an inequality that represents the number of hours *h* that you need to work.

Determine whether the relation is a function. If the relation is a function, determine whether the function is *linear* or *nonlinear*.

31. 

32. 

Find the domain and range of the function represented by the graph. Determine whether the domain is *discrete* or *continuous*.

33. 34.



Evaluate the function when 

 35. 

**Find the x- and y-intercepts of the graph of the linear equation**

36. 

37. 

The points represented by the table lie on a line. Find the slope of the line.

 38. 39.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *x* | −5 | −3 | −1 | 1 |
| *y* | 7 | 4 | 1 | −2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *x* | 2 | 2 | 2 | 2 |
| *y* | −6 | 3 | −7 | 1 |

Graph the linear equation.

 40.  41. 



Identify the slope, *y*-intercept, and *x*-intercept of the graph of the linear equation.

 42.  43.  45. 

Find the value of *x* so that 

45.