

Solve.

1. $3(x - 2) = 15$

2. $-11x + 5 = -9x - 3$

3. $\frac{2x}{3} - 1 = -3$

4. $5x + 8 - 3x = 18$

Evaluate.

5. $-3xy - 2x + 8$ if $x = -2$ and $y = 4$

6. $-5(x + 3)^2 - 9x + 17$ if $x = -4$

7. Use the **expression** $-4x^2 - 2xy + z$ to answer the following questions.

- How many terms does this expression have?
- What is the coefficient of xy ?
- What is the coefficient of z ?

Simplify the following expressions.

8. $-6x + 8 - 11y + 9x - 7 + 3y$

9. $-2(x - 1) + 3x - (4x - 11)$

Write expressions for the following situations.

10. the total cost, c , of an item less an 25% discount

11. An hourly charge of \$33 plus a \$50 service fee

12. Sandra buys m muffins for \$2.50 each and b bagels for \$3.25 each

Solve each formula for the given variable.

13. $Q = 2p + R$ for p

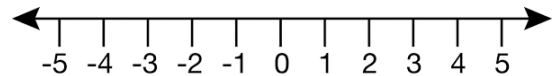
14. $J = \frac{1}{3}gh$ for g

15. $V = \frac{ab+c}{4}$ for c

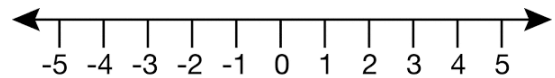
16. $-5x + 4y = 16$ for y

Solve each inequality and **graph** its solution set.

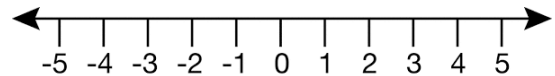
17. $\frac{x}{2} + 5 > 7$



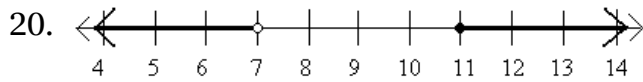
18. $5x - 3 < 8x - 12$



19. $3(x + 2) - 4x \geq 7$



Write an inequality for each graph below.



Solve each compound inequality.

22. $-14 < 2x - 14 \leq 2$

23. $x - 1 > 11$ OR $-3x > -21$

Use the **relation** $\{(-7, 2), (-2, 5), (3, 11)\}$ to answer the following questions.

24. What is domain?

25. What is the range?

26. Is this a function?

27. Determine if the situations would have a **discrete** graph or a **continuous** graph.

- a. the amount of water in a hot water tank
- b. the number of shirts in someone's closet
- c. the number of people in line at the grocery store

28. A local delivery driver is paid \$3.50 per mile plus \$75 a day.

a. Identify the independent and dependent variables.

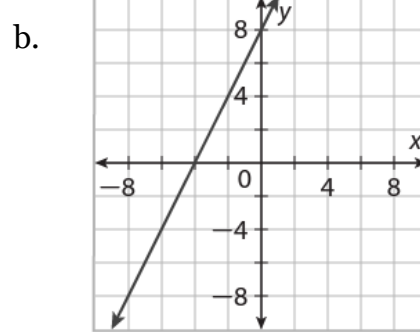
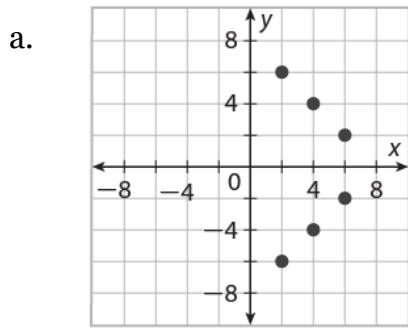
Independent: _____ Dependent: _____

b. Write a function (in function notation) to model this situation.

Function: _____

c. Use your function from part b to determine how much he would get paid for a delivery that's 30 miles away.

29. Use the graph to determine if the relation graphed is a function.



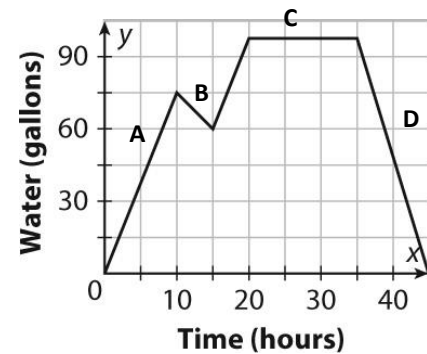
30. Use the graph below to answer the questions.

A. Explain what is happening in part A.

B. Explain what is happening in part B.

C. Explain what is happening in part C.

D. Explain what is happening in part D.



31. Find the value of $f(x)$ if $x = -4$.

a. $f(x) = -x^2 + 3$

b. $f(x) = \frac{1}{4}x - 9$

32. Determine if the function is linear or not linear.

a. $2x - y = 4$

b. $\frac{6}{x} + \frac{5}{y} = 17$

c. $2x + 5y^2 = 18$

Determine if the following relations are a function.

33.

x	y
5	4
6	3
8	4
11	5

34.

x	y
-11	-7
-9	-3
-11	2
-8	14