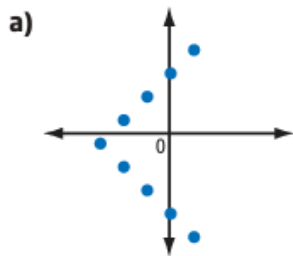


Functions

Show You Know

Ex. 1

Which of the following relations are functions? Explain your choices.



b)  $\{(-2, 1), (0, 0), (2, 1), (5, 1)\}$

c)

x	y
1	3
2	3
3	4
4	4
5	4

Ex. 2

a) Determine  $F(86)$ . Explain your answer.

b) Determine  $C$  so that  $F(C) = 98.6$ . Explain your answer.

c) Another measurement scale for temperature that is used in science is the Kelvin scale. The function  $K(C) = C + 273.15$  can be used to convert from degrees Celsius to kelvins. Determine  $K(80)$  and explain your answer.

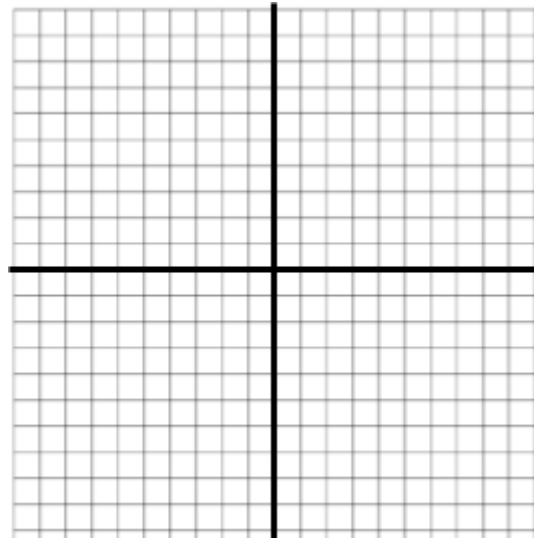
Ex. 3

Use the relation  $y = 3x - 1$ .

a) Write the relation in function notation using  $f$  for the name of the function.

Functions

b) Make a table of values. Graph the function.

c) Determine the value of  $x$  if  $f(x) = 53$ .

Practice

- For each relation, state whether it is a function. For those that are not functions, indicate where or explain why it is not a function. Where possible, use the vertical line test as part of your explanation.

(1, 3) (2, 4) (3, 5) (4, 3) (2, 1)	(5, 1) (4, 1) (3, 1) (2, 1) (1, 1)	(9, 3) (4, 2) (1, 1) (9, -3) (4, -2) (1, -1)
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## Functions

Name	Shoe Size
Andrew	10
Nathan	11
Joel	12
Aaron	13
Simeon	12

Name	Sibling
Anika	Jared
Anika	Joel
Anika	Nathan
Carolyn	Aaron
Carolyn	Simeon

2. The formula for calculating the value of \$500.00 deposited into an account earning 8% compounded annually for  $n$  years is  $A = 500(1 + 0.08)^n$ . Write this formula using function notation.
3. If  $z(a) = -3a + 7$ , determine the following:
- $z(-3)$
  - $z(2)$
  - $a$ , if  $z(a) = 7$
4. For a single membership to FIT-FIT Health Club, you pay a \$55 initiation fee upon enrollment and then \$35 a month. The cost of belonging to the club is represented by the function  $P(m) = 35m + 55$ .
- What is the independent variable in this relation and what does it represent?
  - What would it cost for you to belong to this health club for one year?
  - After how many months of membership would you have spent \$1000?
  - The cost of belonging to one of FITFIT's competitors is represented by the function  $P(w) = 10w + 100$ , where  $w$  represents the number of weeks you are enrolled. Which club would be cheaper to belong to for one year?