

Based on each of the given representations of a function, determine the following.

- 1) The population of a town,  $y$ , is 15,000 people and is growing by 1.5% per year.
  - a. Is this linear or exponential? Justify your choice.
  
  - b. Is this discrete or continuous?
  
  - c. Identify an appropriate domain.
  
  - d. Write the explicit equation.
  
- 2) Joan earns a starting salary of \$30,000 per year and will receive a raise of \$2,500 per year for the first 10 years.
  - a. Is this linear or exponential? Justify your choice.
  
  - b. Is this discrete or continuous?
  
  - c. Identify an appropriate domain.
  
  - d. Write the explicit equation.
  
- 3) A sequence starts at 60 and decreases by 14% each term.
  - a. Is this linear or exponential? Justify your choice.
  
  - b. Is this discrete or continuous?
  
  - c. Identify an appropriate domain.
  
  - d. Write the explicit equation.
  
- 4) Benjamin can clean 3 square feet of space per minute.
  - a. Is this linear or exponential? Justify your choice.
  
  - b. Is this discrete or continuous?
  
  - c. Identify an appropriate domain.
  
  - d. Write the explicit equation.

**Find the rate of change (slope) in each of the problems.**

5) .

$x$	$g(x)$
-5	11
-3	4
-2	0.5
0	-6.5

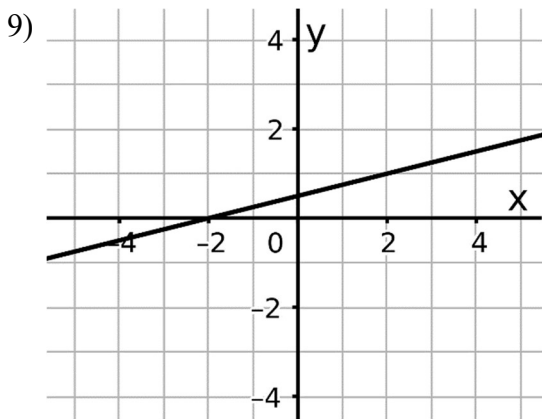
6) .

$t$	$h(t)$
3	13
8	23
18	43
23	53

7) .

$n$	$f(n)$
-7	20
-5	24
-1	32
2	38

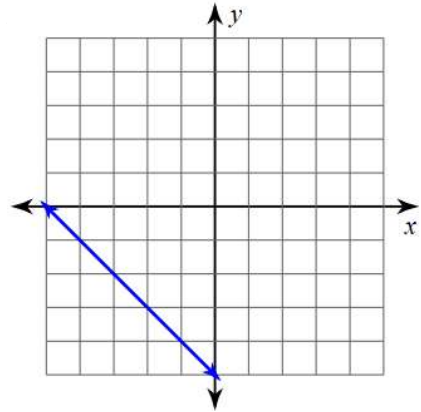
8)  $(2, 5), (8, 29)$



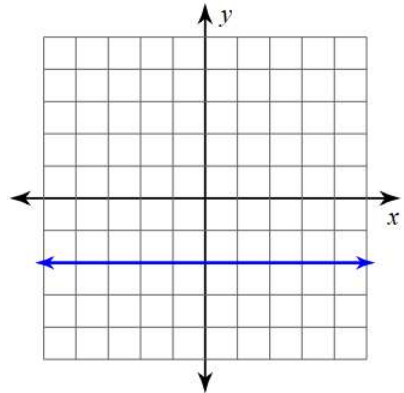
10)  $(-3, 7), (8, 29)$

Write the equation of the line in slope-intercept ( $y = mx + b$ ) form.

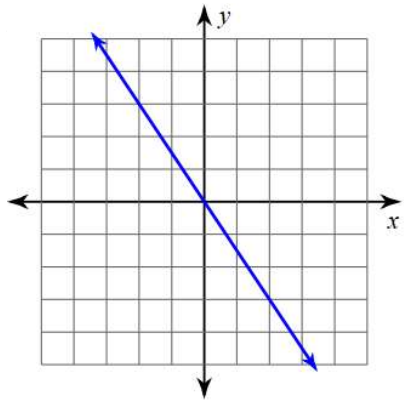
11)



12)



13)



14)

