4.6 Formalizing Relations and Functions

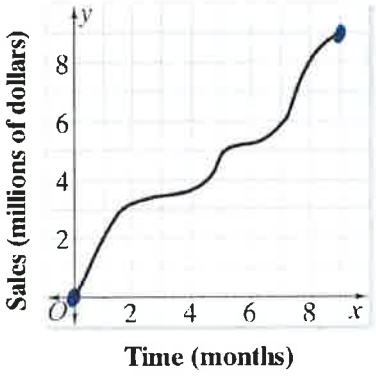
#1-5) For each problem answer the following:

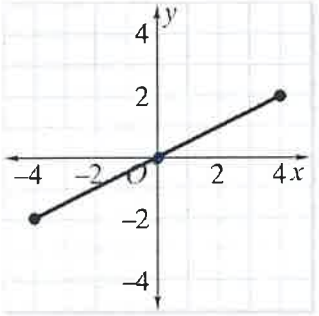
a) Tell whether it is linear or nonlinear
b) Tell whether it is a function or not a function
c) Identify the independent variable.
d) Identify the dependent variable
e) Write an equation to represent this situation.
f) Find the domain of this function.
g) Find the range of this function.
h) Does this data represent discrete or continuous data? Explain your reasoning.

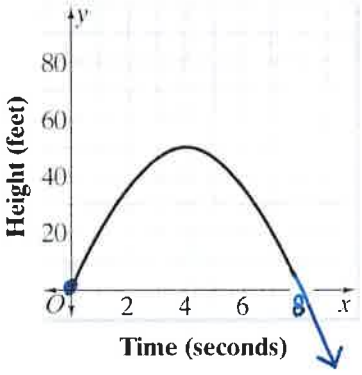
1) *Jimmy has to fill up his car with gasoline to drive to and from work next week. If gas costs $2.79 per gallon, and his car holds a maximum of 28 gallons.*

2) *Pablo charges $20 an hour to teach salsa dancing. What is the domain and range of how much money Pablo can make off salsa dancing lessons.*

3-5)







4.6 Formalizing Relations and Functions

Key

#1-5) For each problem answer the following:

a) Tell whether it is linear or nonlinear
b) Tell whether it is a function or not a function
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e) Write an equation to represent this situation.
f) Find the domain of this function.
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h) Does this data represent discrete or continuous data? Explain your reasoning.

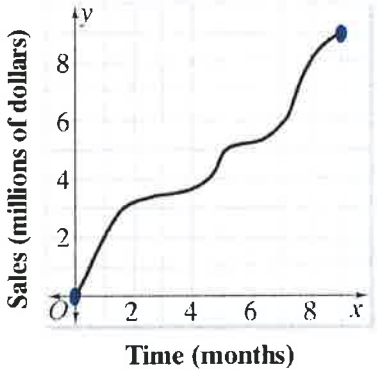
1) *Jimmy has to fill up his car with gasoline to drive to and from work next week. If gas costs $2.79 per gallon, and his car holds a maximum of 28 gallons.*

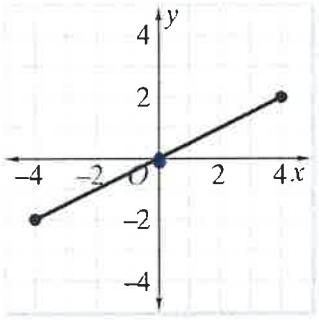
A) linear, as gas increases the cost increases D) cost
B) Function, domain does not repeat E) $y = 28 - 2.79x$
C) # of gallons of gas F) $0 \le x \le 28$
g) $0 \le y \le 78.12$
h) continuous

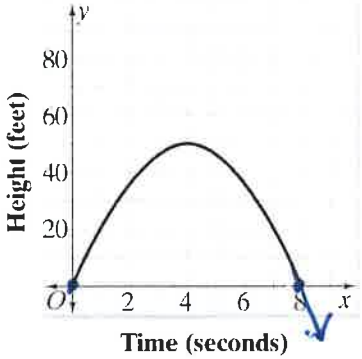
2) *Pablo charges $20 an hour to teach salsa dancing. What is the domain and range of how much money Pablo can make off salsa dancing lessons.*

A) linear, as time increases, cost increases
B) Function, domain does not repeat
C) hours
D) cost
E) $y = 20x$
F) $[0, \infty)$
G) $[0, \infty)$
h) continous

3-5)







A) nonlinear
B) function
C) Time (months)
D) Sales (millions of $)
E) Nonlinear, can't write an equation
F) $0 \le x \le 9$
G) $0 \le y \le 9$ H) continuous

A) linear
B) function
C) x
D) y
E) $y = \frac{1}{2}x + 0$ or $y = \frac{1}{2}$
F) $-4 \le x \le 4$
G) $-2 \le y \le 2$ H) continuous

A) nonlinear
B) function
C) Time (sec.)
D) Height (ft)
E) N/A (right now: wait until Ch. 9 :)
F) $[0, \infty)$
G) $(-\infty, 50]$
H) Continuous