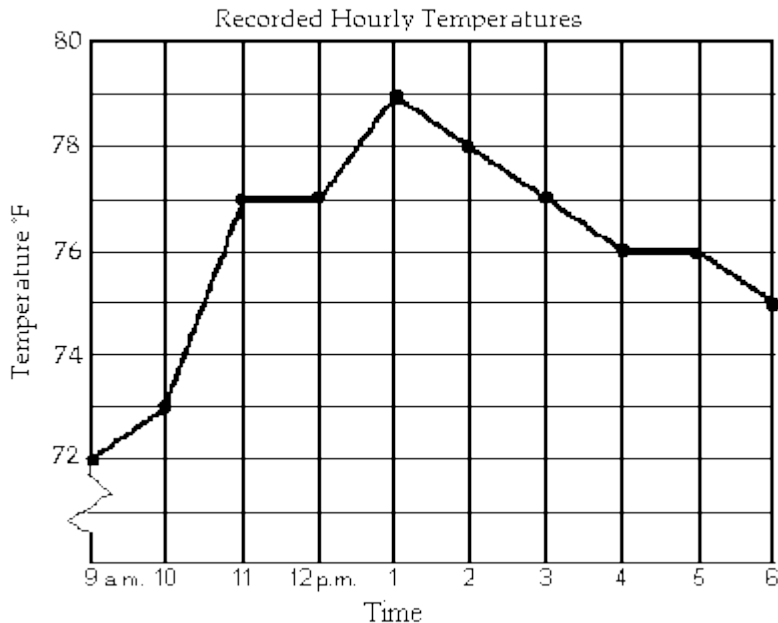


## 5 Interpret Information Given by Graphs

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

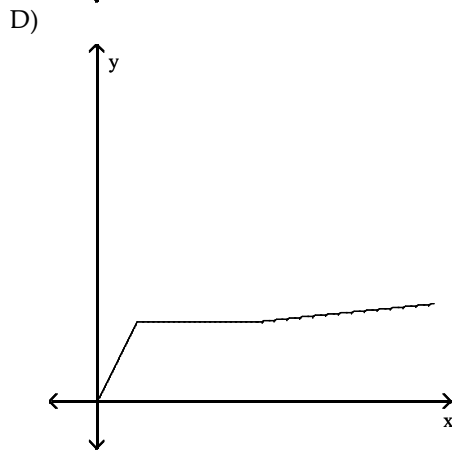
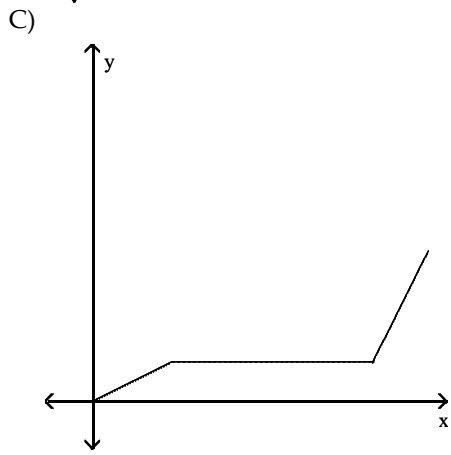
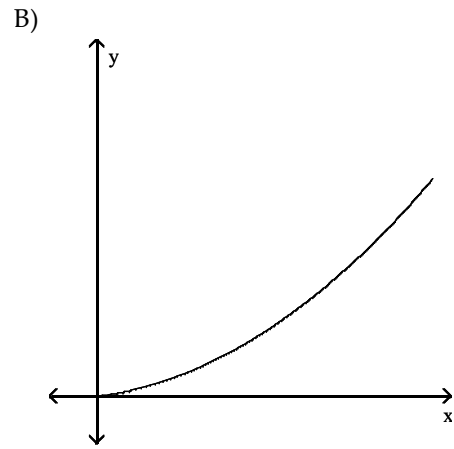
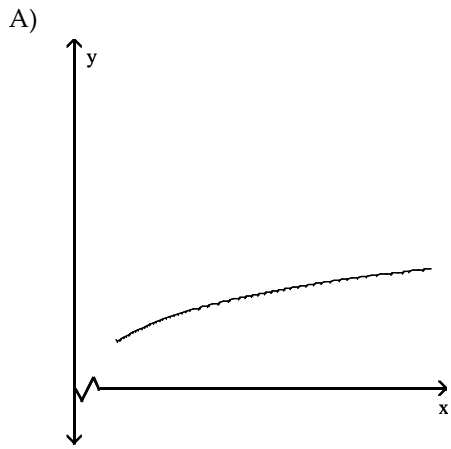
The line graph shows the recorded hourly temperatures in degrees Fahrenheit at an airport.



- At what time was the temperature the highest?  
A) 1 p.m.                      B) 5 p.m.                      C) 11 a.m.                      D) 2 p.m.
- At what time was the temperature its lowest?  
A) 9 a.m.                      B) 6 p.m.                      C) 4 p.m.                      D) 1 p.m.
- What temperature was recorded at 6 p.m.?  
A) 75 ° F                      B) 77 ° F                      C) 73 ° F                      D) 76 ° F
- During which hour did the temperature increase the most?  
A) 10 a.m. to 11 a.m.                      B) 1 p.m. to 2 p.m.                      C) 12 p.m. to 1 p.m.                      D) 9 a.m. to 10 a.m.
- At what time was the temperature 72°?  
A) 9 a.m.                      B) 10 a.m.                      C) 6 p.m.                      D) 9 a.m. and 10 a.m.
- During which two hour period did the temperature increase the most?  
A) 9 a.m. to 11 a.m.                      B) 10 a.m. to 11 a.m.                      C) 12 p.m. to 2 p.m.                      D) 10 a.m. to 12 p.m.

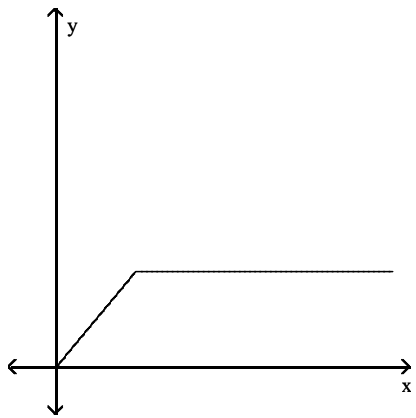
Match the story with the correct figure.

7) The amount of rainfall as a function of time, if the rain fell more and more softly.

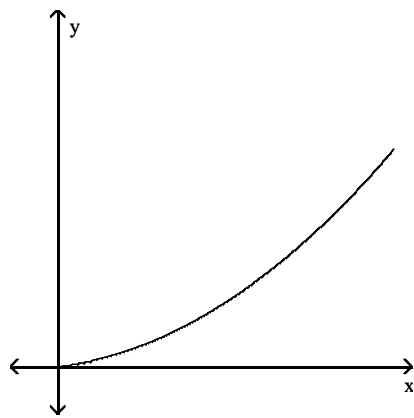


8) The height of an animal as a function of time.

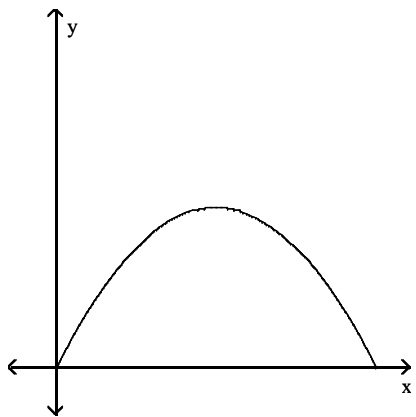
A)



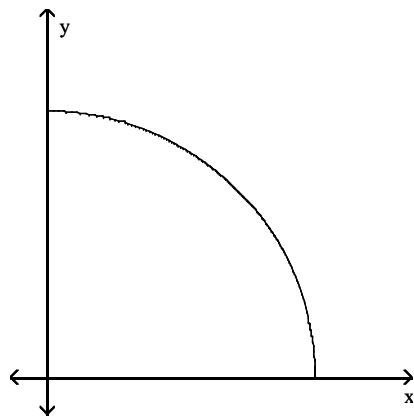
B)



C)

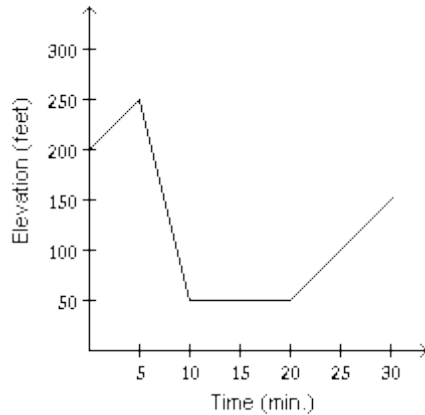


D)

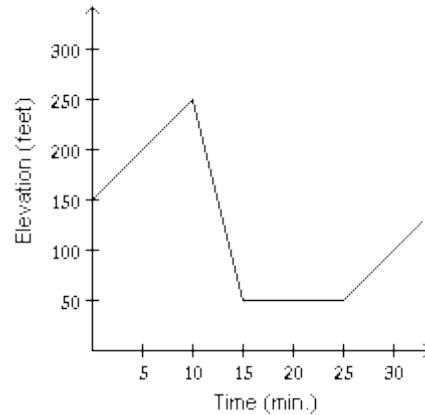


9) Mark started out by walking up a hill for 5 minutes. For the next 5 minutes he walked down a steep hill to an elevation lower than his starting point. For the next 10 minutes he walked on level ground. For the next 10 minutes he walked uphill. Determine which graph of elevation above sea level versus time illustrates the story.

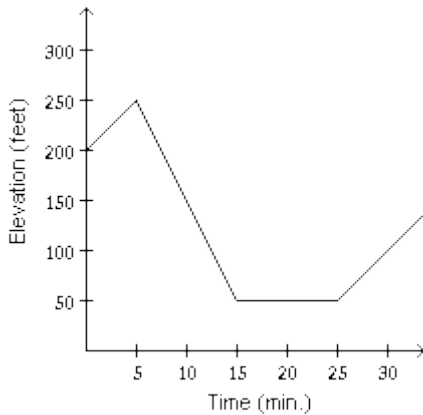
A)



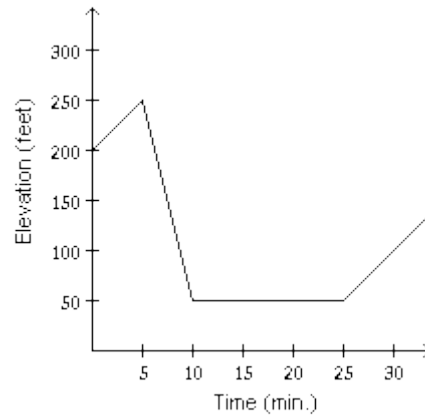
B)



C)



D)



## 1.2 Basics of Functions and Their Graphs

### 1 Find the Domain and Range of a Relation

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Give the domain and range of the relation.

1)  $\{(11, -3), (-2, -7), (-5, -6), (-5, 6)\}$

- A) domain =  $\{11, -2, -5\}$ ; range =  $\{-3, -7, -6, 6\}$
- B) domain =  $\{-3, -7, -6, 6\}$ ; range =  $\{11, -2, -5\}$
- C) domain =  $\{11, -2, -5, -15\}$ ; range =  $\{-3, -7, -6, 6\}$
- D) domain =  $\{11, -2, -5, 5\}$ ; range =  $\{-3, -7, -6, 6\}$

2)  $\{(8, 2), (5, -8), (-1, 5), (-1, 7)\}$

- A) domain =  $\{5, 8, -1\}$ ; range =  $\{-8, 2, 5, 7\}$
- C) domain =  $\{5, 8, -1, -11\}$ ; range =  $\{-8, 2, 5, 7\}$

B) domain =  $\{5, 8, -1, 1\}$ ; range =  $\{-8, 2, 5, 7\}$

D) domain =  $\{-8, 2, 5, 7\}$ ; range =  $\{5, 8, -1\}$

3)  $\{(-4, 8), (7, 9), (12, 5), (4, -5)\}$

- A) domain =  $\{4, -4, 12, 7\}$ ; range =  $\{-5, 8, 5, 9\}$
- C) domain =  $\{4, -4, 12, 7\}$ ; range =  $\{-5, -8, 8, 5, 9\}$

B) domain =  $\{-5, 8, 5, 9\}$ ; range =  $\{4, -4, 12, 7\}$

D) domain =  $\{4, -4, 12, 7\}$ ; range =  $\{-5, -5, 8, 5, 9\}$

- 4)  $\{(5, -6), (5, 5), (-7, 7), (3, -5), (-5, -8)\}$   
 A) domain =  $\{3, -7, -5, 5\}$ ; range =  $\{-5, 7, -8, 5, -6\}$   
 B) domain =  $\{3, -4, -7, -5, 5\}$ ; range =  $\{-5, 7, -8, 5, -6\}$   
 C) domain =  $\{3, 14, -7, -5, 5\}$ ; range =  $\{-5, 7, -8, 5, -6\}$   
 D) domain =  $\{-5, 7, -8, 5, -6\}$ ; range =  $\{3, 3, -7, -5, 5\}$
- 5)  $\{(19, -2), (3, -1), (3, 0), (4, 1), (12, 3)\}$   
 A) domain:  $\{19, 4, 3, 12\}$ ; range:  $\{-2, -1, 0, 1, 3\}$   
 B) domain:  $\{-2, -1, 1, 3\}$ ; range:  $\{19, 4, 3, 12\}$   
 C) domain:  $\{-2, -1, 0, 1, 3\}$ ; range:  $\{19, 4, 3, 12\}$   
 D) domain:  $\{19, 4, 3, 12\}$ ; range:  $\{-2, -1, 1, 3\}$
- 6)  $\{(6, -5), (3, 2), (4, 6), (-1, 3), (-4, 9)\}$   
 A) domain =  $\{4, -1, 3, 6, -4\}$ ; range =  $\{6, 3, 2, -5, 9\}$   
 B) domain =  $\{6, 3, 2, -5, 9\}$ ; range =  $\{4, -1, 3, 6, -4\}$   
 C) domain =  $\{4, 6, -1, 3, 3\}$ ; range =  $\{2, 6, -5, -4, 9\}$   
 D) domain =  $\{2, 6, -5, -4, 9\}$ ; range =  $\{4, 6, -1, 3, 3\}$
- 7)  $\{(-2, 6), (-1, 3), (0, 2), (1, 3), (3, 11)\}$   
 A) domain:  $\{-2, -1, 0, 1, 3\}$ ; range:  $\{6, 3, 2, 11\}$   
 B) domain:  $\{-2, -1, 1, 3\}$ ; range:  $\{6, 3, 2, 11\}$   
 C) domain:  $\{6, 3, 2, 11\}$ ; range:  $\{-2, -1, 0, 1, 3\}$   
 D) domain:  $\{6, 3, 2, 11\}$ ; range:  $\{-2, -1, 1, 3\}$

## 2 Determine Whether a Relation is a Function

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

**Determine whether the relation is a function.**

- 1)  $\{(-1, -6), (2, -5), (4, 9), (8, -5), (10, 3)\}$   
 A) Function  
 B) Not a function
- 2)  $\{(-6, 3), (-1, 3), (1, -1), (1, 1)\}$   
 A) Not a function  
 B) Function
- 3)  $\{(-6, 8), (-6, -5), (2, -8), (6, -8), (9, 6)\}$   
 A) Not a function  
 B) Function
- 4)  $\{(1, -2), (1, -4), (4, -3), (9, -1), (12, 5)\}$   
 A) Not a function  
 B) Function
- 5)  $\{(-5, 4), (-2, 9), (4, 8), (5, 2)\}$   
 A) Function  
 B) Not a function
- 6)  $\{(-9, 2), (-9, 5), (2, 7), (4, -1), (9, 4)\}$   
 A) Not a function  
 B) Function
- 7)  $\{(-7, -1), (-3, -6), (-2, -7), (2, -2)\}$   
 A) Function  
 B) Not a function
- 8)  $\{(-4, -1), (-3, 7), (2, -8), (2, -9)\}$   
 A) Not a function  
 B) Function
- 9)  $\{(-6, 6), (-1, 2), (2, -3), (5, 5)\}$   
 A) Function  
 B) Not a function
- 10)  $\{(-3, -8), (3, 6), (5, -5), (7, -6), (10, 6)\}$   
 A) Function  
 B) Not a function