## **OBJECTIVE**

TIPS:

"X" drives!

"X" can only drive to ONE place.

Other "X's" can drive to the same place of course.

1. Identify functions.

If even one "X" is "confused" ==> NOT a function.

## **ELIGIBLE CONTENT**

Use the Vertical Line Test if you have or know the graph.

Hint: first degree equations are lines. All lines except vertical lines are functions.

- The options may be graphs, ordered pairs, tables, or mappings.
- The options may be equations when given a table of values or ordered pairs.
- The options may be tables of values or ordered pairs when given an equation.

• Functions may be expressed using either the terminology f(x) = x or "y = x."

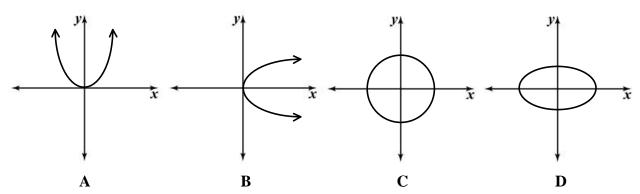
## **SAMPLE ITEMS**

("a function of "X")

("a function of "X")

(Ex) y=f(x) = 2x+3

Which of these graphs represents a function?



Which of these mappings is NOT a function?

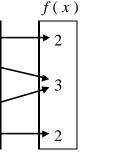
 $\begin{bmatrix} x \\ 1 \\ 2 \end{bmatrix}$ 

3

4

A

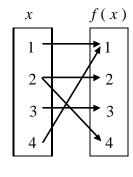
2



1 2 2 3 1 4

х

f(x)



 $\begin{array}{c|c}
x & f(x) \\
\hline
1 & 4 \\
2 & 3 \\
4 & 1
\end{array}$ 

B

 $\mathbf{C}$ 

D

Which of these equations represents the data in the table?

$$\begin{array}{c|cc}
x & y \\
\hline
1 & -1 \\
2 & -5 \\
\hline
-2 & 11
\end{array}$$

**A** 
$$y = -4x + 1$$

**B** 
$$y = -4x + 3$$

C 
$$y = -2x - 5$$

**D** 
$$y = -2x + 11$$

Which of these tables represents the function y = -3x - 5? 4

$$\begin{array}{c|cc}
x & y \\
\hline
0 & -8 \\
1 & 2 \\
-1 & -2 \\
\end{array}$$

$$\begin{array}{c|cc}
x & y \\
1 & -2 \\
2 & -11 \\
-2 & 1
\end{array}$$

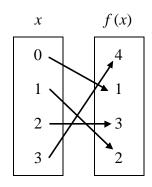
$$\begin{array}{c|cc}
x & y \\
0 & -5 \\
1 & -8 \\
-1 & -2
\end{array}$$

B

D

5

Which of these functions describes the mapping below?



- $\mathbf{A} \quad f(x) = x + 1$
- $\mathbf{B} \quad f(x) = x 1$
- $\mathbf{C} \quad f(x) = 2x + 1$
- **D** f(x) = 2x 1
- 6

Which of these tables represents the function f(x) = |x| + 1?

X	f(x)
-2	-3
-1	-2
0	-1
1	0

X	f(x)
-2	-1
-1	0
0	1
1	2

$$\begin{array}{c|cc}
x & f(x) \\
\hline
-2 & 3 \\
-1 & 2 \\
0 & 1 \\
1 & 0
\end{array}$$

$$\begin{array}{c|cc}
x & f(x) \\
\hline
-2 & 3 \\
-1 & 2 \\
0 & 1 \\
1 & 2
\end{array}$$

A

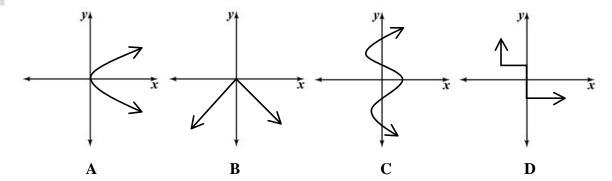
В

 $\mathbf{C}$ 

D

- **7** Which of the following relations describes a function?
  - **A**  $\{(-1,3),(3,6),(2,5),(3,9)\}$
  - **B** {(14, 44), (13, 44), (13, 35), (17, 69)}
  - $C \{(6,13), (5,5), (7,16), (3,13)\}$
  - **D** {(18,18), (15, 20), (18,19), (3,9)}

8



Which of these graphs does NOT represent a function?

