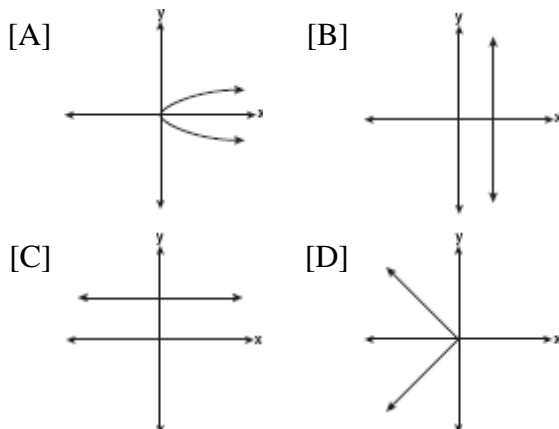


Lesson 5-2: Relations and Functions

Part 1: Identifying Relations and Functions

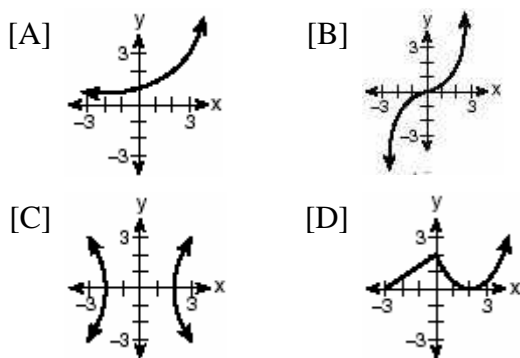
1. fall0730ia, P.I. A.G.3

Which graph represents a function?



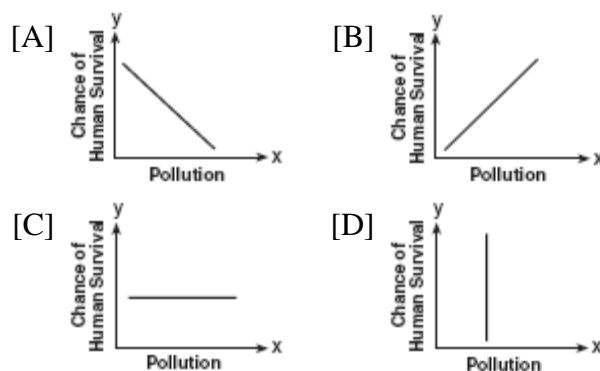
2. 010511b, P.I. A.G.3

Which graph is *not* a function?



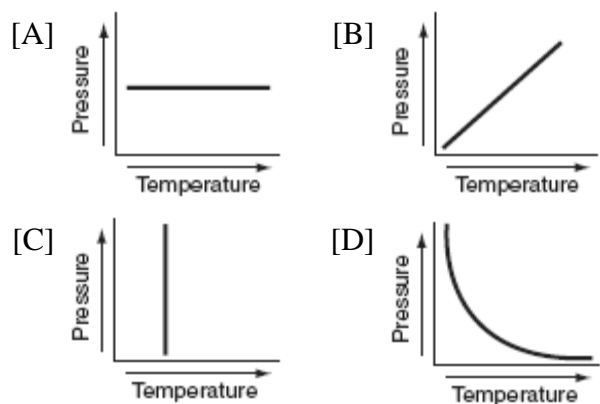
3. 080301b, P.I. A.G.3

Which graph does not represent a function of x ?



4. 060601b, P.I. A.G.3

Each graph below represents a possible relationship between temperature and pressure. Which graph does *not* represent a function?



5. 080403b, P.I. A.G.3

Which set of ordered pairs is *not* a function?

- [A] $\{(1,2), (3,4), (4,5), (5,6)\}$
- [B] $\{(4,1), (5,1), (6,1), (7,1)\}$
- [C] $\{(3,1), (2,1), (1,2), (3,2)\}$
- [D] $\{(0,0), (1,1), (2,2), (3,3)\}$

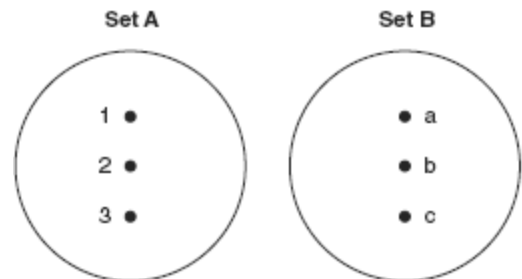
6. 060715b, P.I. A.G.3

Which set of ordered pairs does *not* represent a function?

- [A] $\{(3,-2), (3,-4), (4,-1), (4,-3)\}$
- [B] $\{(3,-2), (4,-3), (5,-4), (6,-5)\}$
- [C] $\{(3,-2), (-2,3), (4,-1), (-1,4)\}$
- [D] $\{(3,-2), (5,-2), (4,-2), (-1,-2)\}$

7. 010622b, P.I. A2.A.37

On the accompanying diagram, draw a mapping of a relation from set A to set B that is *not* a function. Explain why the relationship you drew is *not* a function.



Part 2: Evaluating Functions

8. 060406b, P.I. A2.A.41

If $f(x) = 4x^0 + (4x)^{-1}$, what is the value of $f(4)$?

- [A] 0 [B] $4\frac{1}{16}$ [C] -12 [D] $1\frac{1}{16}$

9. 080701b, P.I. A2.A.41

If $f(x) = (x^{-x} - x^0 + 2^x)$, then $f(3)$ is equal to

- [A] -22 [B] -21
- [C] $8\frac{1}{27}$ [D] $7\frac{1}{27}$

[1] C

[2] C

[3] D

[4] C

[5] C

[6] A

[2] A mapping is drawn that maps at least one element of set A to more than one element of set B, and an appropriate explanation of the difference between functions and relations is written.

[1] An appropriate mapping is drawn, but no explanation is written.

or [1] An incorrect mapping is drawn, but an appropriate explanation is written.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[7] incorrect procedure.

[8] B

[9] D