# *Spatial Thinking Ability Test*

## (A)

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## Questionnaire

1. Gender: ☐ Male / ☐ Female

2. Are you geography major? ☐ Yes / ☐ No

3. Have you ever taken a cartography or Geographic Information System (GIS) or map (or aerial photo) reading course? ☐ Yes / ☐ No

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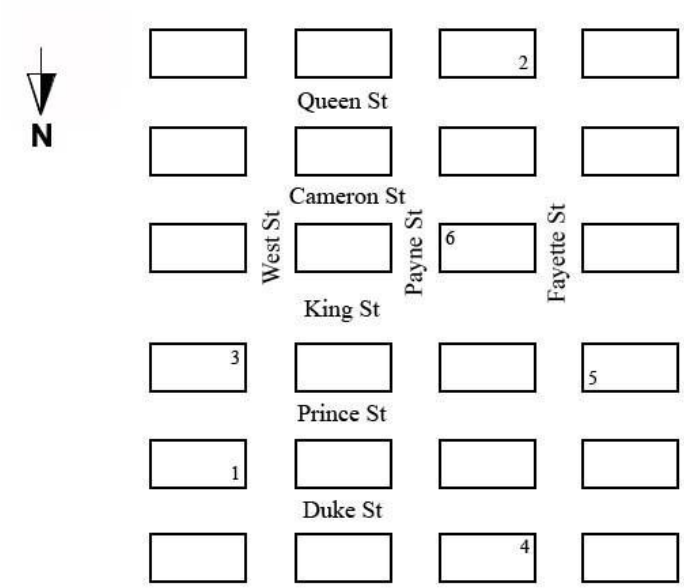
*DIRECTIONS: Answer question on the basis of the street map below.*




1. If you are located at point 1 and travel north one block, then turn west and travel three blocks, and then turn south and travel two blocks, you will be closest to point.

   (A) 2
   (B) 3
   (C) 4
   (D) 5
   (E) 6

2. If you are located at point 1 and travel west one block, then turn left and travel three, then turn west and travel one block, and then turn right and travel four blocks, you will be closest to point.

   (A) 2
   (B) 3
   (C) 4
   (D) 5
   (E) 6

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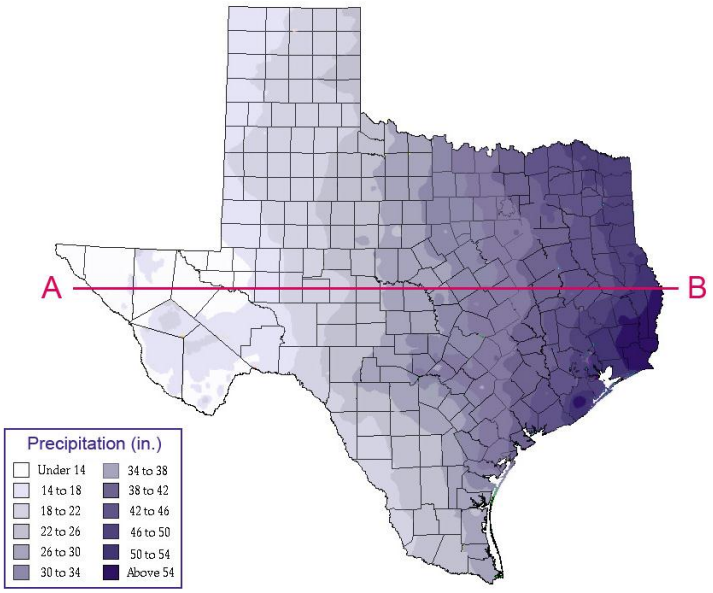
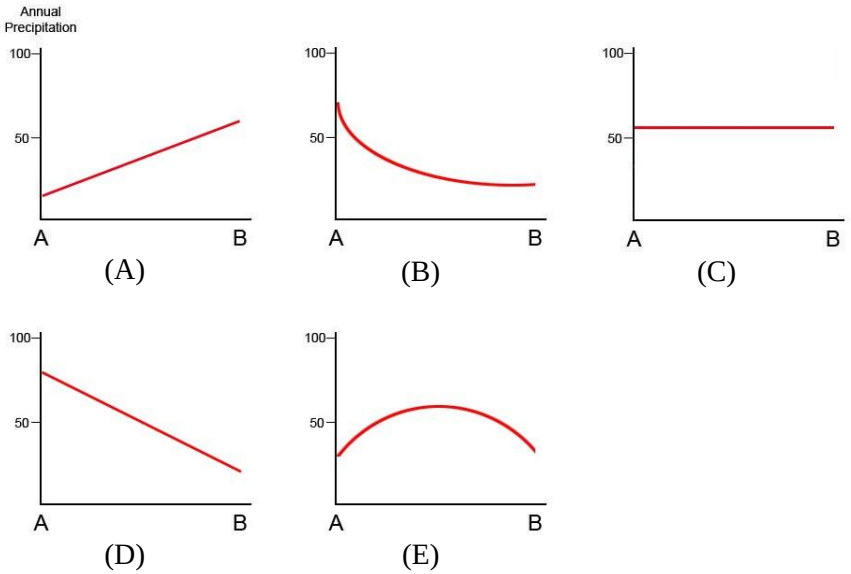
*Direction: The map below shows annual precipitation of Texas.*




3. If you draw a graph showing change of Texas annual precipitation between A and B, the graph will be _____ .

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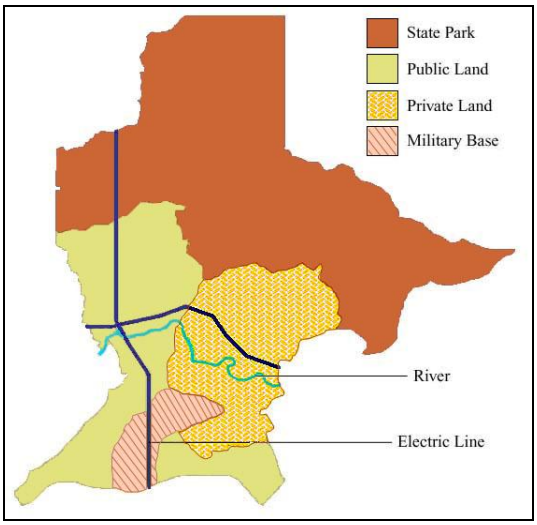
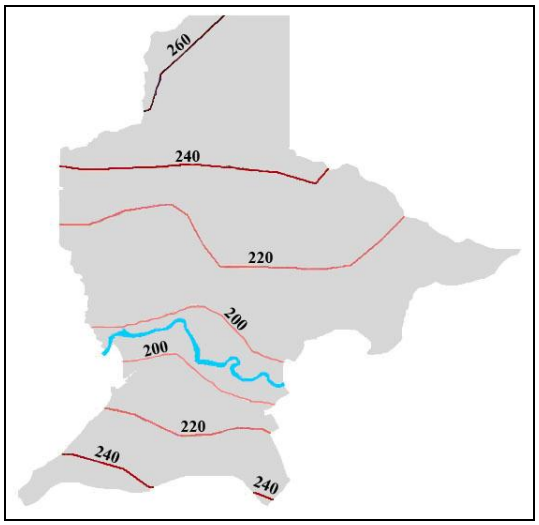
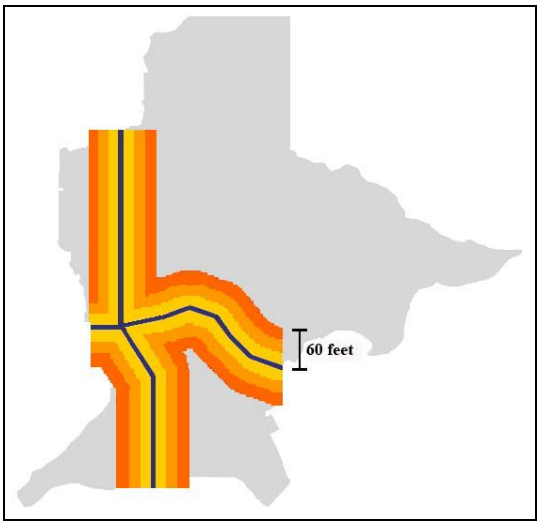
*DIRECTIONS: Find the best location for a flood management facility based on the following conditions. First, a possible site for a flood management facility should be within 60 feet of an existing electric line. Second, a possible site for a flood management facility should be located less than 220 feet. And last, a possible site for a flood management facility should be located in State Park or Public Land.*



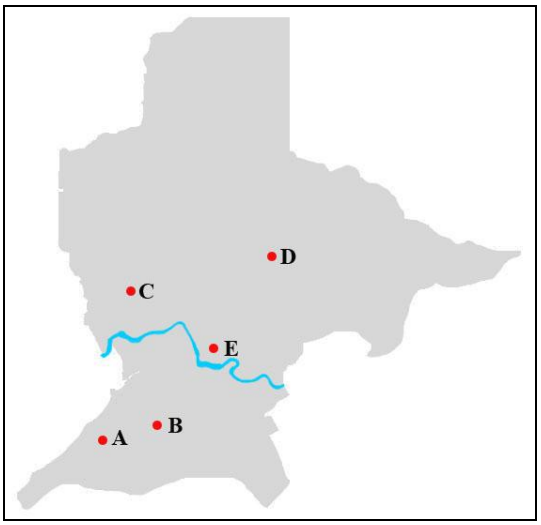

Land use




Elevation (feet)




60 feet from electronic line




Potential facility location

4. Mark √ on the best site (A~E) for the flood management facility on the map above.

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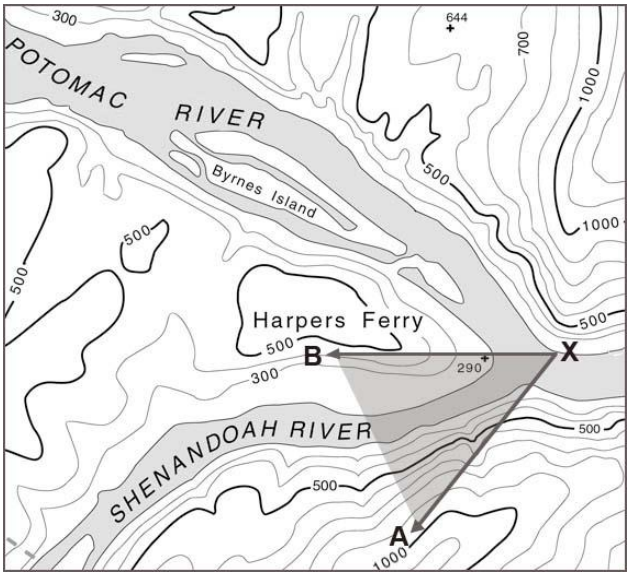
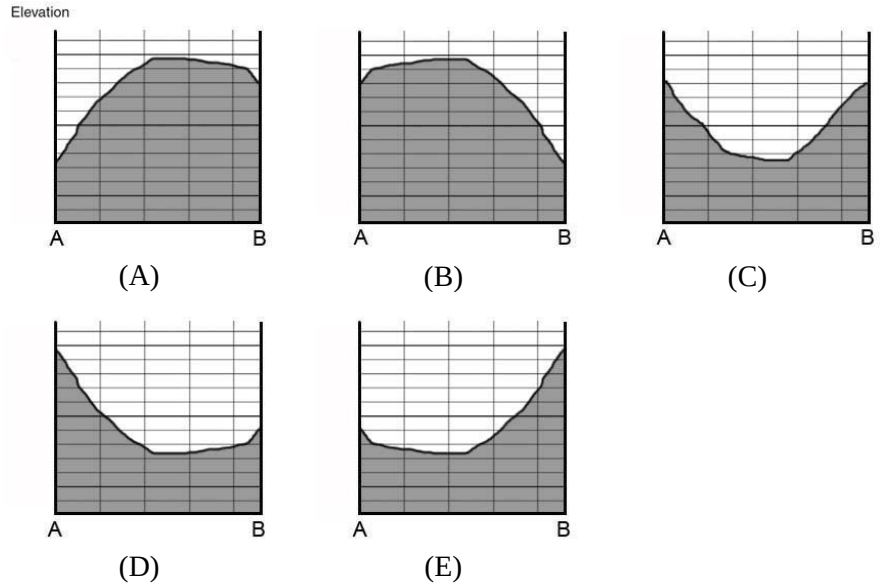
5. Imagine that you are standing at location X and looking in the direction of A and B. Among 5 slope profiles (A~E), which profile most closely represents what you would see?

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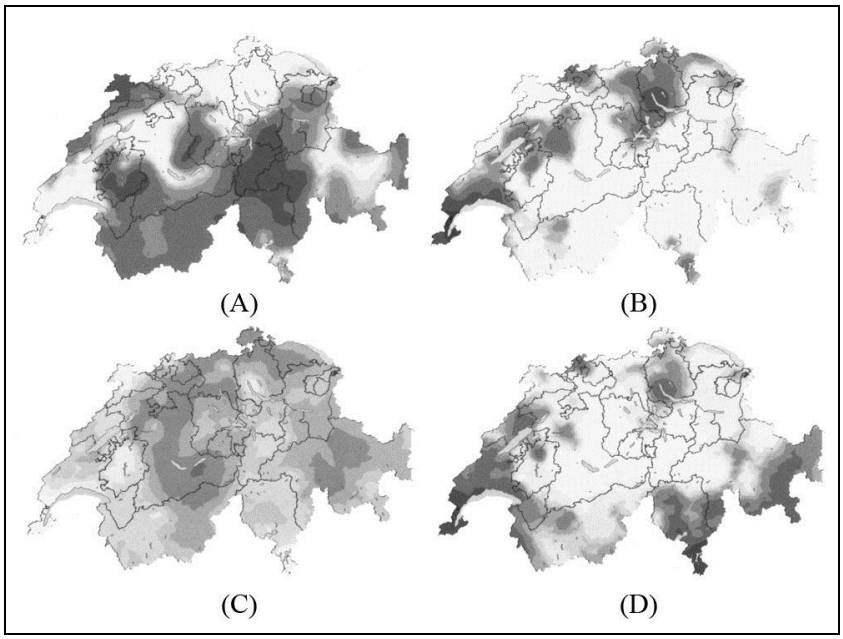
*DIRECTIONS: Your job is to find maps that have spatial correlations. For example, map (B) and map (D) have positive correlation (similar patterns).*

*Example*

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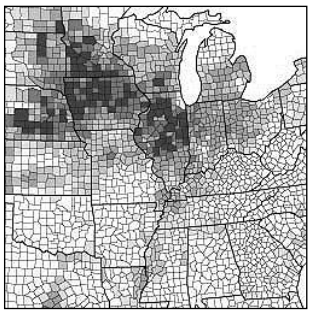
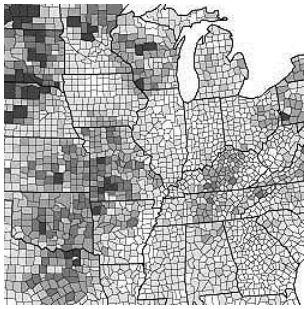
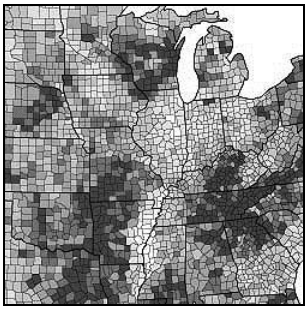


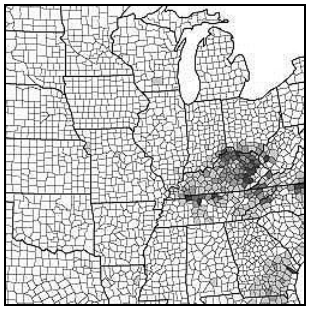
6. *Find a map (A~F) having a strong positive correlation with the map on the left.* _____ (Choose closest one).



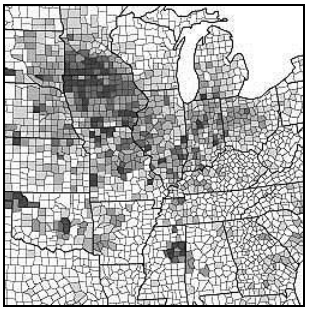
A



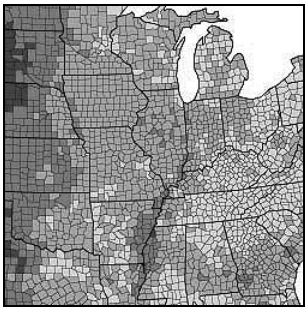
B



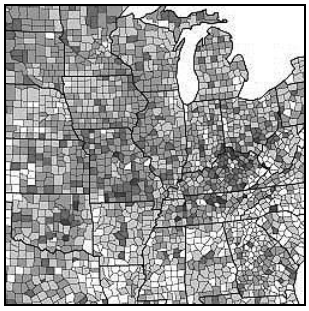
C



D



E



F

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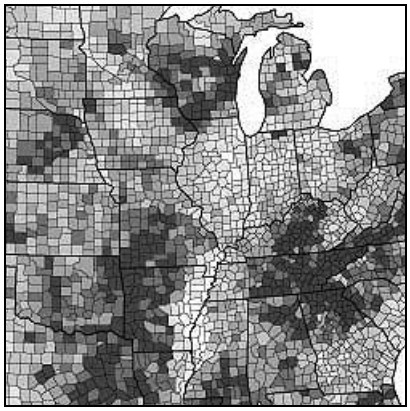
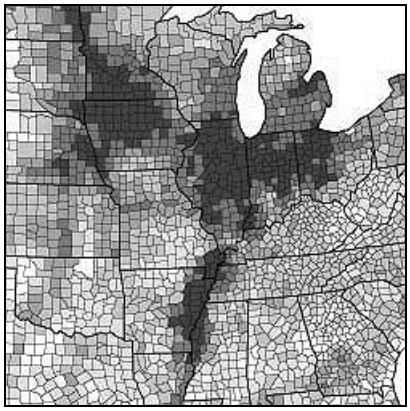
*DIRECTIONS: The following two maps show (A) Acres of corn production and (B) Value of hogs and pigs as percent of total market value of agricultural products sold.*

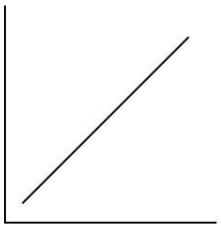


A

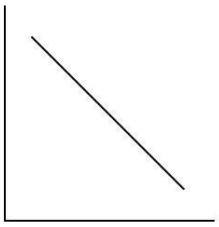


B

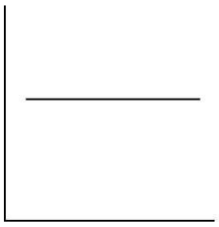
7. If you draw a graph showing the relationship between map (A) and (B), the graph will be _____ .



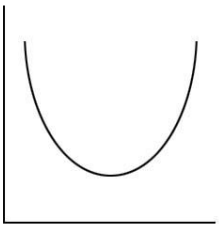
(A)



(B)



(C)



(D)

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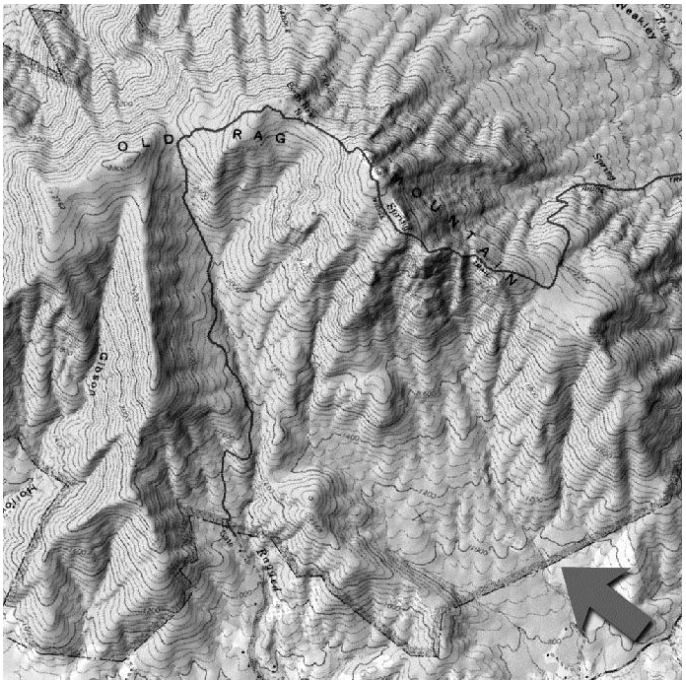
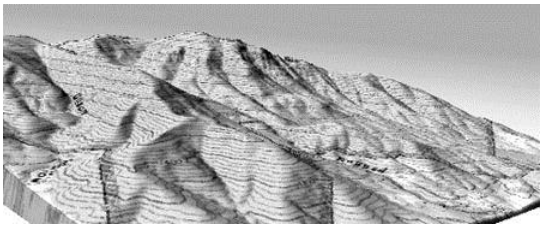
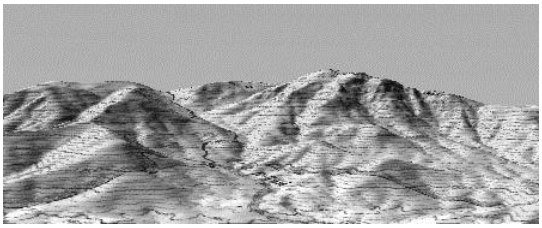
8. If you look at the area below in the direction of arrow, which terrain view (A~E) most closely represents what you would see?

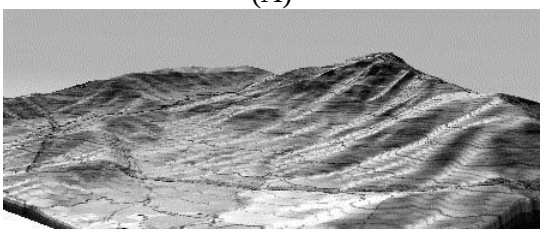


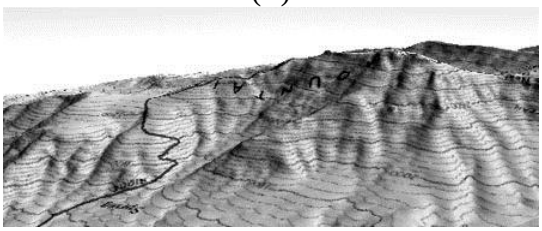
(A)



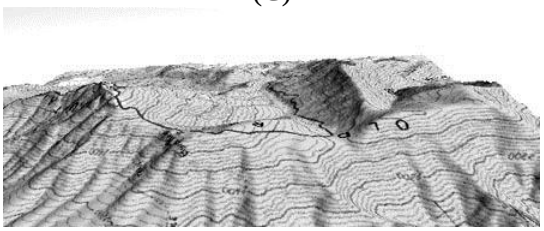
(B)



(C)



(D)



(E)

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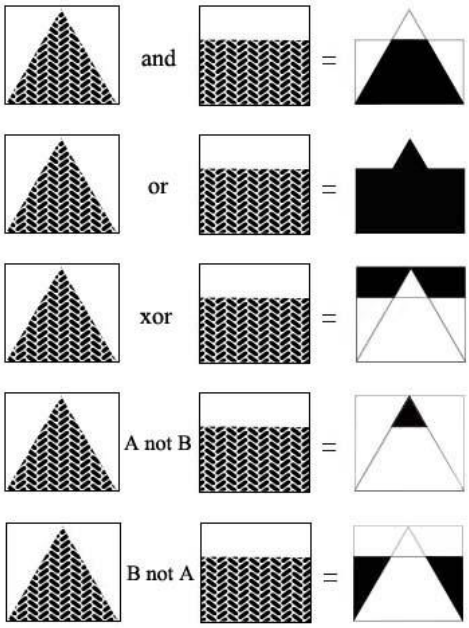
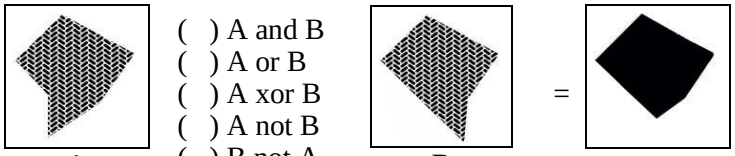
*DIRECTIONS: Solve the following questions based on the example below. Please mark (√) an answer.*

*Example*

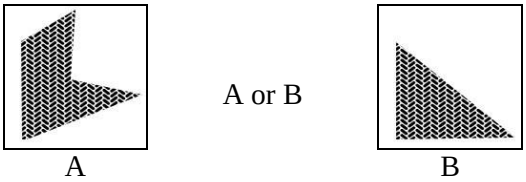



9.

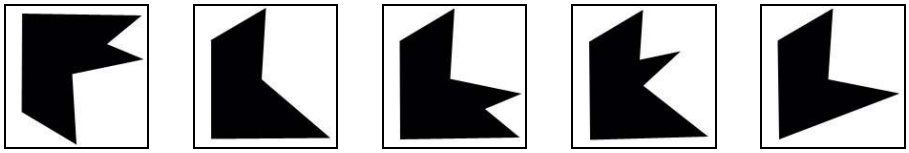



( ) A and B
( ) A or B
( ) A xor B
( ) A not B
( ) B not A

10.




A or B



( ) ( ) ( ) ( ) ( )

*Question #9 and #10 are adapted from Albert and Gollege (1999)*

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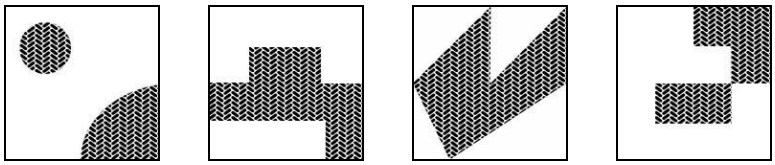
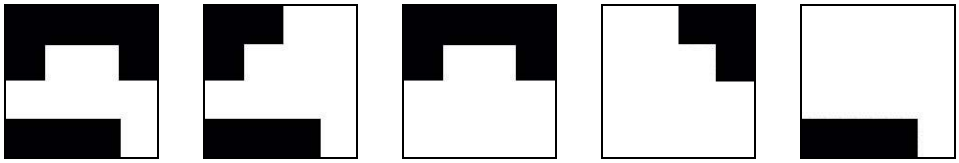
*Solve question 11 and 12 based on the following diagram.*



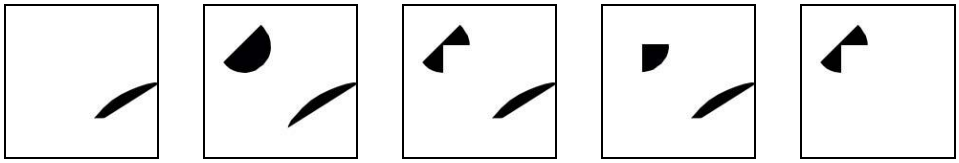
A B C D

11. (not B) and D



( ) ( ) ( ) ( ) ( )

12. A and B and C



( ) ( ) ( ) ( ) ( )

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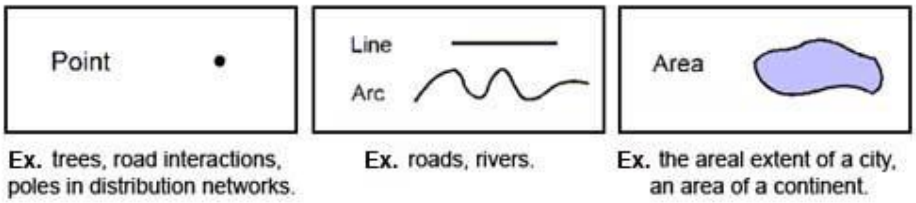
*DIRECTIONS: Real world objects can be represented explicitly by point, line (arc), and area (polygon). Based on the examples below, classify the followings spatial data.*

*Example*




13. Locations of weather stations in Washington County _____ .

    (A) Lines
    (B) Area
    (C) Points and Lines
    (D) Points and Area

14. Mississippi River channels and their basins _____ .

    (A) Lines
    (B) Area
    (C) Points and Lines
    (D) Lines and Area

15. Shuttle bus route of the Lincoln Elementary School _____ .

    (A) Points
    (B) Area
    (C) Points and Lines
    (D) Points and Area

16. Places that can be reached by Franklin County fire engines in 5 minutes or less _____.

    (A) Points
    (B) Lines
    (C) Area
    (D) Points and Lines

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