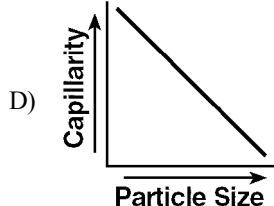
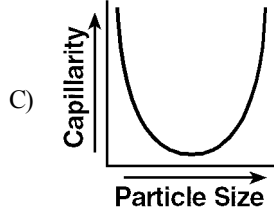
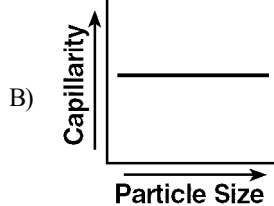
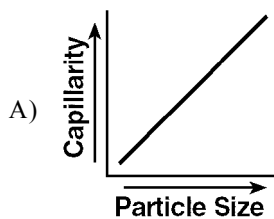


Name: _____

- 1) Which graph *best* represents the relationship between the particle size and the capillarity of a sample of soil?



- 2) Which one of the following statements *best* explains why climates at continental shorelines generally have a smaller yearly temperature range than inland climates at the same latitude?

- A) Land changes temperature rapidly, due to the high specific heat and lack of transparency of land.
 B) Ocean water changes temperature slowly, due to the high specific heat and transparency of water.
 C) Ocean water is a good absorber and a good conductor of heat energy.
 D) Land is a poor absorber and a poor conductor of heat energy.

- 3) A high air-pressure, dry-climate belt is located at which Earth latitude?

- A) 30° N
 B) 15° N
 C) 0°
 D) 60° N

- 4) What is the source of most of the water vapor that enters the atmosphere?

- A) lakes
 B) plants
 C) soil
 D) oceans

- 5) Which condition is most likely to cause surface runoff during a rainstorm?

- A) The permeability of the soil is greater than the rate of rainfall.
 B) The surface soil is saturated.
 C) The surface slope allows for maximum infiltration.
 D) The porosity of the soil is greater than the amount of rainfall.

- 6) An area with a high potential for evapotranspiration has little actual evapotranspiration and precipitation. The climate of this area is *best* described as

- A) cold and arid
 B) hot and humid
 C) cold and humid
 D) hot and arid

- 7) Which current is a cool ocean current that flows completely around Earth?

- A) North Equatorial Current
 B) California Current
 C) West Wind Drift
 D) Gulf Stream

- 8) Soil composed of which kind of particles would have the *longest* infiltration time? [Assume that all particles allow some water to pass through.]

- A) silt
 B) sand
 C) pebbles
 D) clay

- 9) What is the *best* explanation for the two statements below?

- Some mountains located near the Earth's Equator have snow-covered peaks.
- Icecaps exist at the Earth's poles.



- A) Both mountain and polar regions have arid climates.
 B) An increase in snowfall and an increase in temperature have a similar effect on climate.
 C) Mountain and polar regions receive more energy from the Sun than other regions do.
 D) High elevation and high latitude have a similar effect on climate.

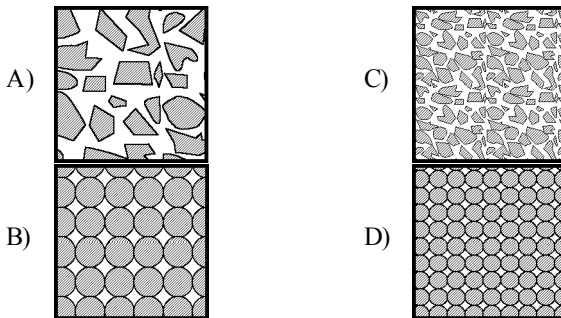
- 10) Water will enter the soil if the ground surface is

- A) impermeable and unsaturated
 B) impermeable and saturated
 C) permeable and saturated
 D) permeable and unsaturated

- 11) Which diagram represents the soil with the *greatest* permeability?

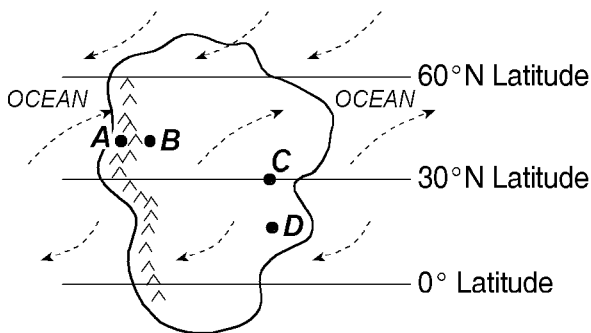
KEY:

-  Soil particles
 Pore space (air)



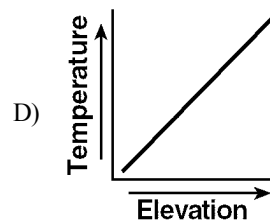
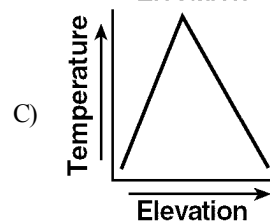
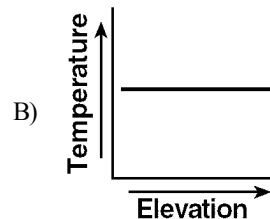
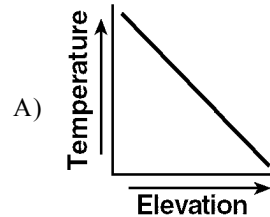
Questions 12 through 14 refer to the following:

The map below shows an imaginary continent on Earth. Arrows represent prevailing wind directions. Letters *A* through *D* represent locations on the continent. Locations *A* and *B* are at the same latitude and at the same elevation at the base of the mountains.



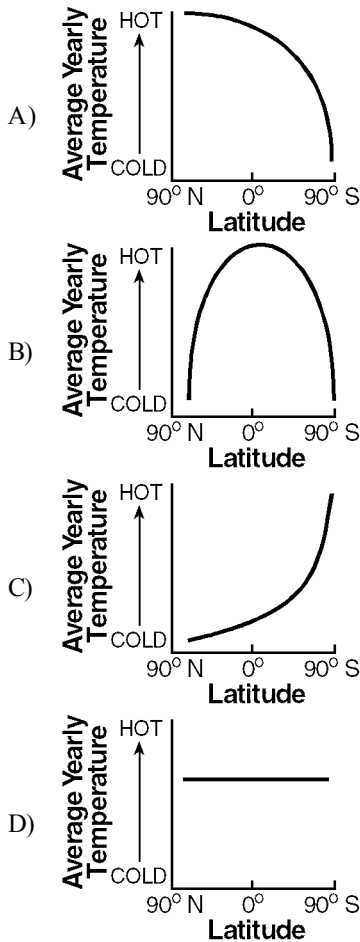
- 12) Over the course of a year, compared to location *B*, location *A* will have
- less precipitation and a greater temperature range
 - less precipitation and a smaller temperature range
 - more precipitation and a smaller temperature range
 - more precipitation and a greater temperature range
- 13) Compared to the observations made at location *D*, the observed altitude of Polaris at location *B* is
- only greater from March 21 to September 22
 - always less
 - only less from March 21 to September 22
 - always greater
- 14) The climate at location *C* is much drier than at location *D*. This difference is *best* explained by the fact that location *C* is located
- at a latitude that experiences longer average annual daylight
 - at a latitude where air is sinking and surface winds diverge
 - farther from any mountain range
 - closer to a large body of water

- 15) Compared to an inland location of the same elevation and latitude, a coastal location is likely to have
- warmer summers and cooler winters
 - cooler summers and warmer winters
 - warmer summers and warmer winters
 - cooler summers and cooler winters
- 16) Which graph *best* shows the general effect that differences in elevation above sea level have on the average annual temperature?



- 17) According to the *Earth Science Reference Tables*, at which of these latitudes would average annual precipitation be *greatest*?
- 90° S
 - 90° N
 - 30° N
 - 0°

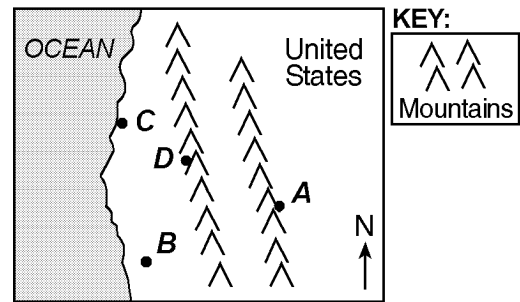
18) Which graph *best* represents the relationship between average yearly temperature and latitude?



19) A city located near the center of a large continent has colder winters and warmer summers than a city at the same elevation and latitude located on the continent's coast. Which statement *best* explains the difference between the cities' climates?

- A) Air masses originate only over land.
- B) Windspeeds are greater over land than over oceans.
- C) Water changes temperature more rapidly than land.
- D) Land has a lower specific heat than water.

20) The map below shows the location of four cities, *A*, *B*, *C*, and *D*, in the western United States where prevailing winds are from the southwest.



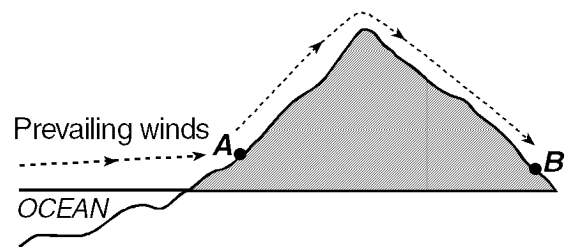
Which city most likely receives the *least* amount of average yearly precipitation?

- A) *A*
- B) *B*
- C) *C*
- D) *D*

21) According to the *Earth Science Reference Tables*, the climate of which location in New York State is influenced *least* by large bodies of water?

- A) Buffalo
- B) Jamestown
- C) New York City
- D) Binghamton

22) In the diagram of a mountain below, location *A* and location *B* have the same elevation.



Compared to the climate at location *A*, the climate at location *B* will be

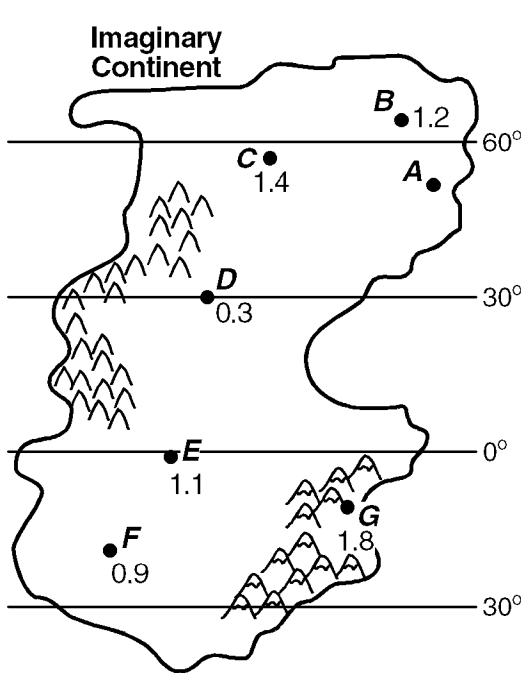
- A) warmer and drier
- B) cooler and drier
- C) warmer and wetter
- D) cooler and wetter

23) The direction of surface ocean currents is influenced most by

- A) planetary winds
- B) variations in density of the water
- C) land breezes and sea breezes
- D) variations in salinity of the water

Questions 24 and 25 refer to the following:

The map below represents an imaginary continent on the Earth. Letters *B* through *G* are locations on the map for which climate ratios are given. The climate ratio is determined by dividing the average yearly precipitation by the average yearly potential evapotranspiration (P/E_p). The data table shows the monthly precipitation and potential evapotranspiration values for location *A*.



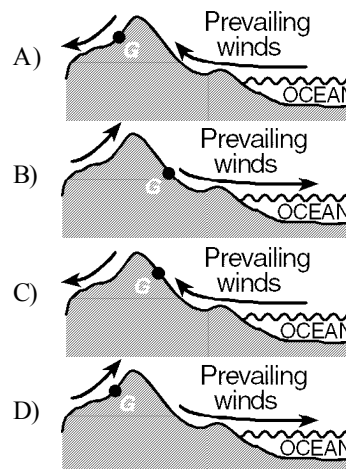
Climate Ratio (Yearly P/E _p)	Climate Type
Less than 0.4	Arid
0.4-0.8	Semiarid
0.8-1.2	Subhumid
Greater than 1.2	Humid

WATER BUDGET DATA FOR LOCATION A (mm)

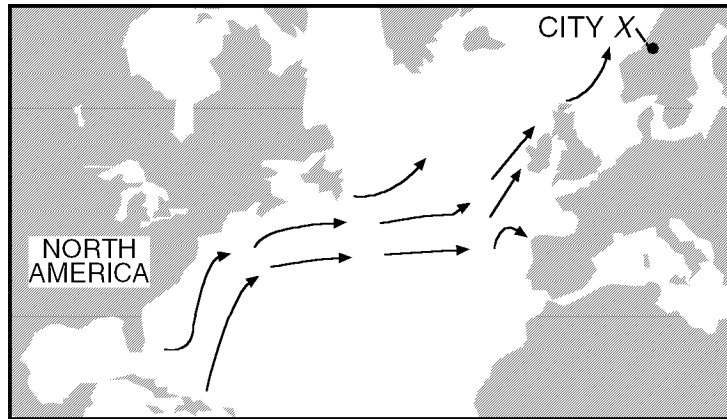
	Precipitation (P)	Potential Evapotranspiration (E _p)
Jan.	68	5
Feb.	76	10
Mar.	89	35
Apr.	96	60
May	81	85
June	68	155
July	75	170
Aug.	71	159
Sept.	67	82
Oct.	65	60
Nov.	70	34
Dec.	63	10
TOTALS	889	865

- 24) Which climate condition is characteristic of *both* location *C* and location *D*?
- the same yearly potential evapotranspiration
 - a large yearly temperature range
 - a large amount of yearly precipitation
 - the same number of months of moisture surplus

- 25) Location *G* has a cold, humid climate. Which profile *best* represents the position of location *G* with respect to the mountains and the prevailing winds?

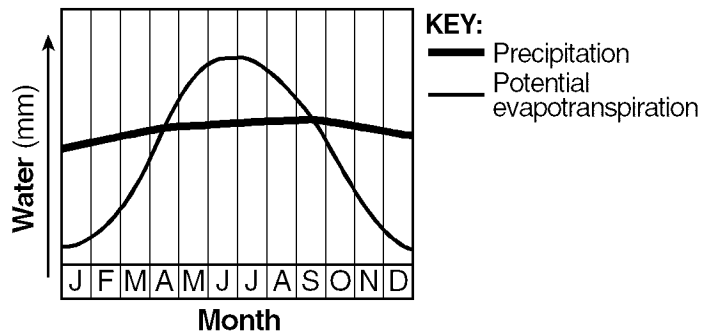


26) Arrows on the map below represent ocean currents.

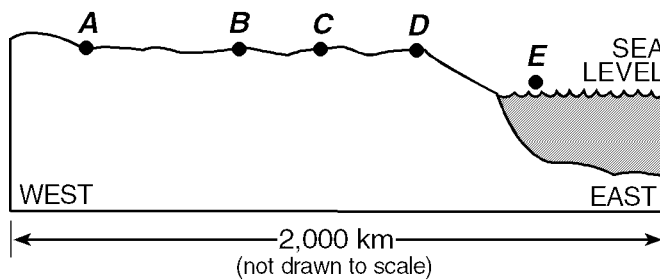


These ocean currents affect the climate pattern of city X by

- A) decreasing the average annual evapotranspiration
 - B) decreasing the average annual cloud cover
 - C) increasing the average annual temperature
 - D) increasing the average annual air pressure
- 27) According to the water budget graph below, during which month will the soil moisture most likely be depleted at this location?



- A) August
 - B) February
 - C) October
 - D) April
- 28) The diagram below represents a landscape profile. Points A, B, C, D, and E are locations in the mid-latitudes of the Northern Hemisphere.

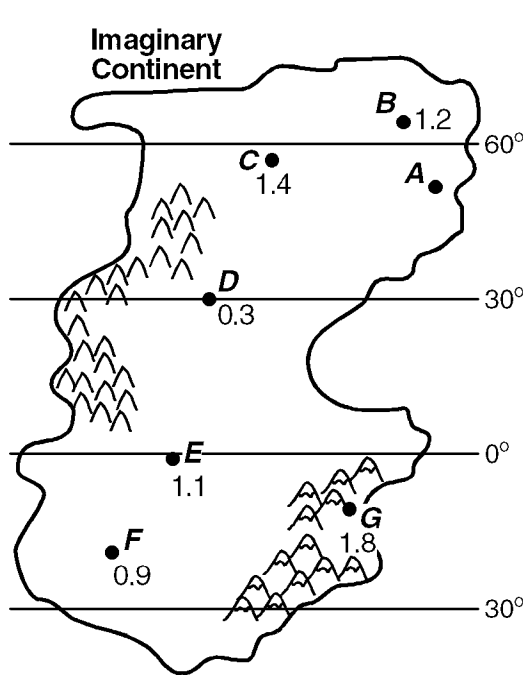


At which location would the daily temperature range during the month of July be *smallest*?

- A) B
- B) E
- C) C
- D) D

Questions 29 through 31 refer to the following:

The map below represents an imaginary continent on the Earth. Letters *B* through *G* are locations on the map for which climate ratios are given. The climate ratio is determined by dividing the average yearly precipitation by the average yearly potential evapotranspiration (P/E_p). The data table shows the monthly precipitation and potential evapotranspiration values for location *A*.

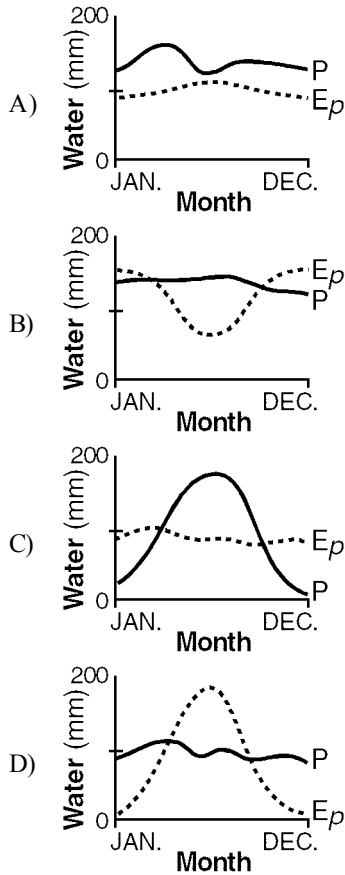


Climate Ratio (Yearly P/E_p)	Climate Type
Less than 0.4	Arid
0.4-0.8	Semiarid
0.8-1.2	Subhumid
Greater than 1.2	Humid

WATER BUDGET DATA FOR LOCATION A (mm)

	Precipitation (P)	Potential Evapotranspiration (E_p)
Jan.	68	5
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Aug.	71	159
Sept.	67	82
Oct.	65	60
Nov.	70	34
Dec.	63	10
TOTALS	889	865

- 29) Which graph *best* shows the monthly precipitation and potential evapotranspiration values for location *A*?



- 30) The potential evapotranspiration (E_p) recorded at these locations depends primarily on the
- amount of solar radiation absorbed
 - height of the water table
 - level of water in the streams
 - soil composition in the area
- 31) At location *A*, the value of the yearly P/E_p ratio is 889 mm/865 mm. What is the type of climate at location *A*?
- arid
 - subhumid
 - humid
 - semiarid