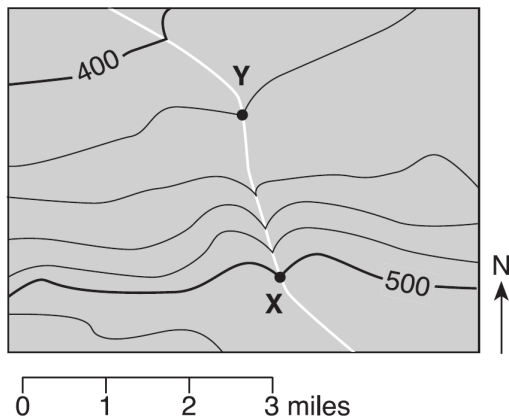


Midterm Review #1 - 2018

1. A 25-gram sample of halite was placed in a jar with five other mineral samples and water. The jar was shaken vigorously for 5 minutes. The halite sample was then found to have a mass of 15 grams. What was the rate of weathering of the halite sample?

- A) 0.50 g/min B) 2.0 g/min
C) 3.0 g/min D) 10. g/min

2. The topographic map below shows a stream crossing several contour lines and passing through points *X* and *Y*. Elevations are measured in feet.



What is the approximate gradient between point *X* and point *Y*?

- A) 10 ft/mi B) 20 ft/mi
C) 40 ft/mi D) 80 ft/mi

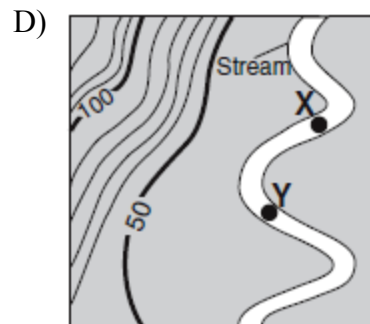
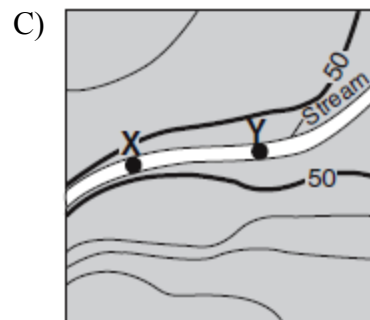
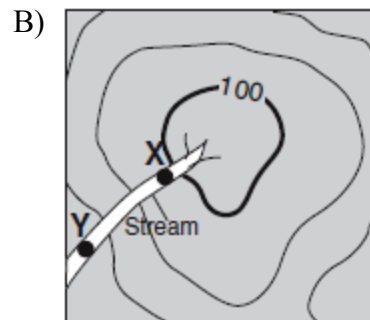
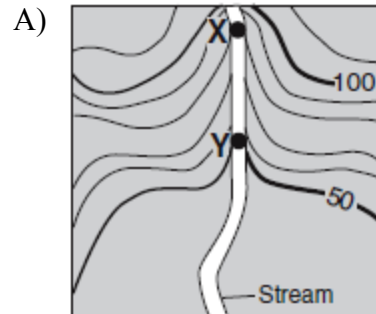
3. The ozone layer protects life on Earth by absorbing harmful ultraviolet radiation. The ozone layer is located between 17 kilometers and 35 kilometers above Earth's surface in which atmospheric temperature zone?

- A) troposphere B) thermosphere
C) mesosphere D) stratosphere

4. A mineral sample is found to have a density of 3.0 grams per cubic centimeter. It is then broken into two pieces, with one piece twice as large as the other. The smaller of the two pieces will have a density of

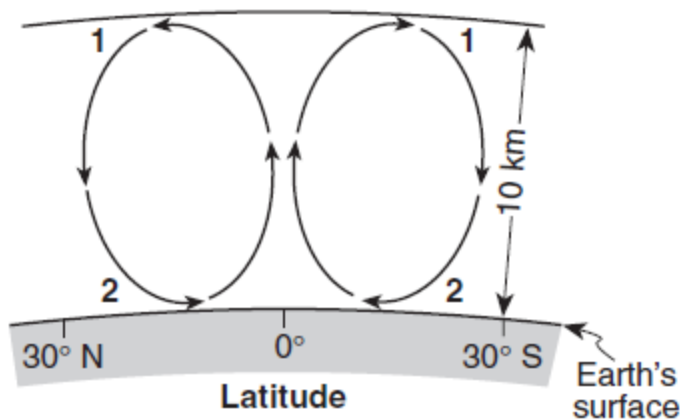
- A) 1.0 g/cm³ B) 1.5 g/cm³
C) 3.0 g/cm³ D) 6.0 g/cm³

5. The four streams shown on the topographic maps below have the same volume between *X* and *Y*. The distance from *X* to *Y* is also the same. All the maps are drawn to the same scale and have the same contour interval. Which map shows the stream with the greatest velocity between points *X* and *Y*?



Midterm Review #1 - 2018

Base your answers to questions 6 and 7 on the cross section below and on your knowledge of Earth science. The cross section shows the general movement of air within a portion of Earth's atmosphere located between 30° N and 30° S latitude. Numbers 1 and 2 represent different locations in the atmosphere.



(Not drawn to scale)

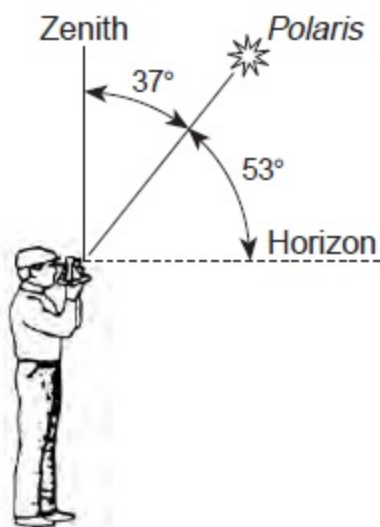
6. The air movement shown in the cross section is due to the process of

- A) conduction B) evaporation C) convection D) condensation

7. Which temperature zone layer of Earth's atmosphere is shown in the cross section?

- A) troposphere B) mesosphere C) thermosphere D) stratosphere

8. The diagram below represents an observer measuring the altitude of *Polaris*.



At which latitude is this observer located?

- A) 16° N B) 37° N
C) 53° N D) 90° N

9. A gravity meter is used to measure the amount of gravitational pull at the Earth's North Pole and at the Earth's Equator. How would these readings of gravitational pull compare? [Assume both readings are taken at sea level.]

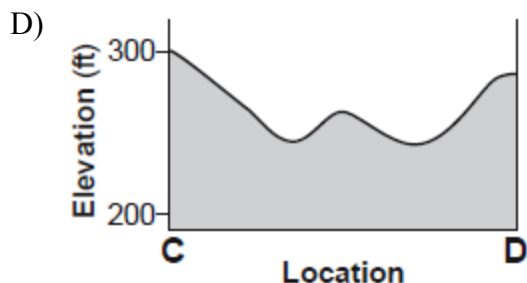
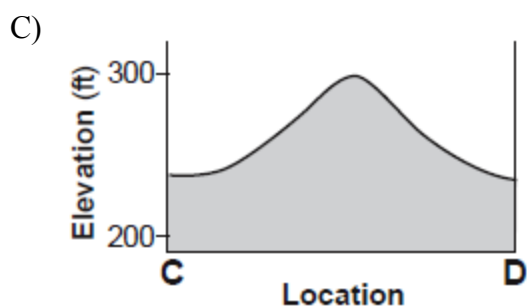
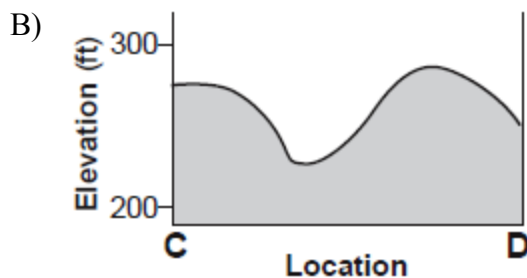
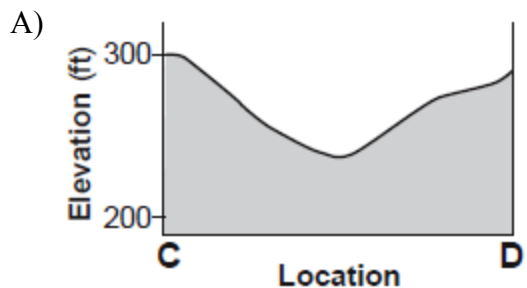
- A) The readings would be the same at the North Pole and at the Equator.
B) The reading would be higher at the North Pole than at the Equator.
C) The reading would be lower at the North Pole than at the Equator.

10. Which statement best illustrates a classification system?

- A) Snowfall predictions for winter storms vary.
B) Stars are grouped according to their color.
C) Ocean depths are measured by using sonar.
D) A glacier melts at the rate of one meter per year.

Midterm Review #1 - 2018

13. Which cross section represents an accurate profile of the landscape between points *C* and *D*?



14. Measurements taken from space show the Earth to be

- A) greatest in diameter at the poles
- B) greatest in diameter at the Equator
- C) a perfect sphere
- D) pear shaped

15. When the time of day for a certain ship at sea is 12 noon, the time of day at the Prime Meridian (0° longitude) is 5 p.m. What is the ship's longitude?

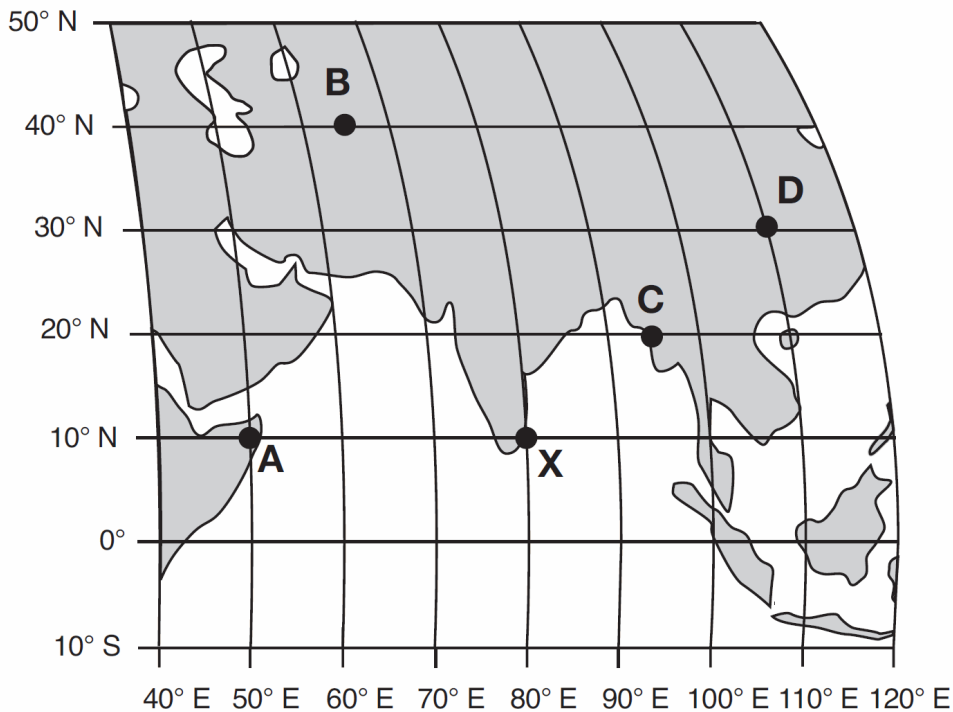
- A) 45° W
- B) 75° W
- C) 45° E
- D) 75° E

16. While walking on a glacier, an observer makes several statements. Which statement is an inference?

- A) "Some of the snow on this glacier is powdery."
- B) "The rocks on this glacier are of different sizes."
- C) "There are many cracks in this glacier."
- D) "Some parts of this glacier will start melting this spring."

Midterm Review #1 - 2018

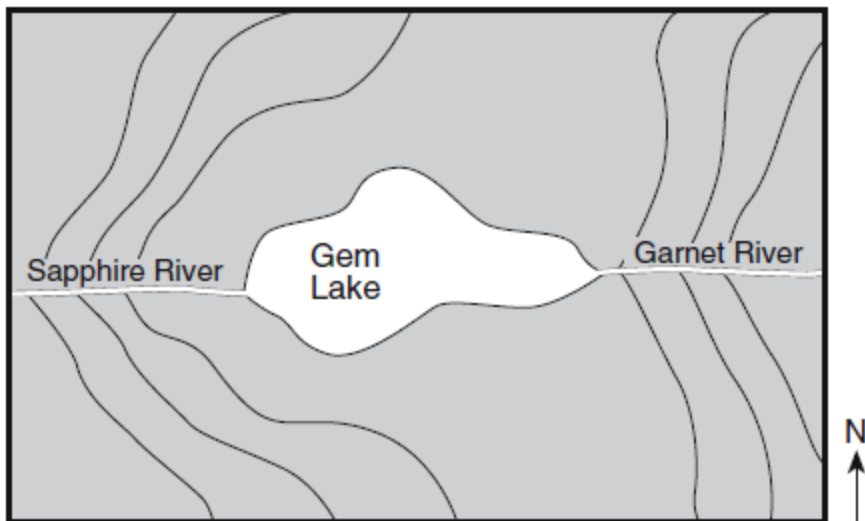
17. The map below shows a portion of Earth's system of latitude and longitude and five surface locations labeled *A*, *B*, *C*, *D*, and *X*.



At which location would sunrise occur first?

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

18. The topographic map below shows a lake and two rivers.

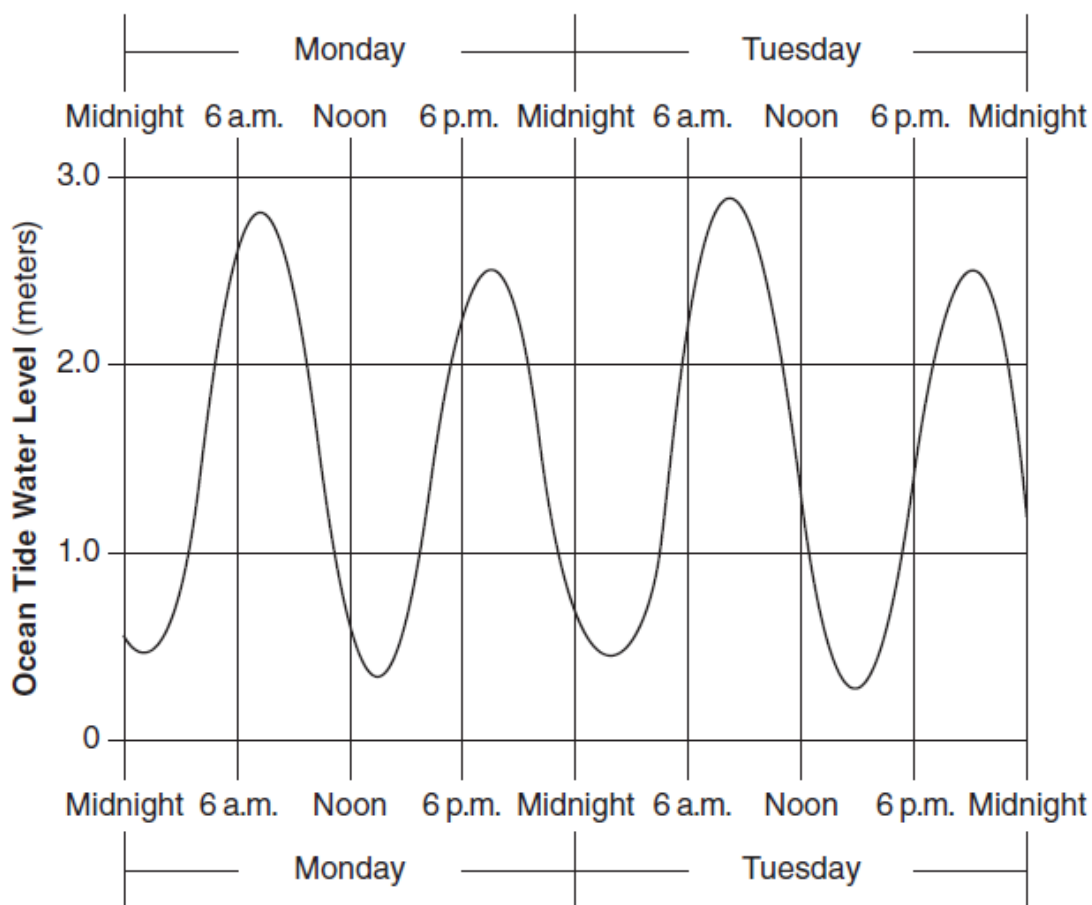


In which direction does each of the rivers flow?

- A) The Sapphire River and the Garnet River both flow west.
B) The Sapphire River flows west and the Garnet River flows east.
C) The Sapphire River flows east and the Garnet River flows west.
D) The Sapphire River and the Garnet River both flow east.

Midterm Review #1 - 2018

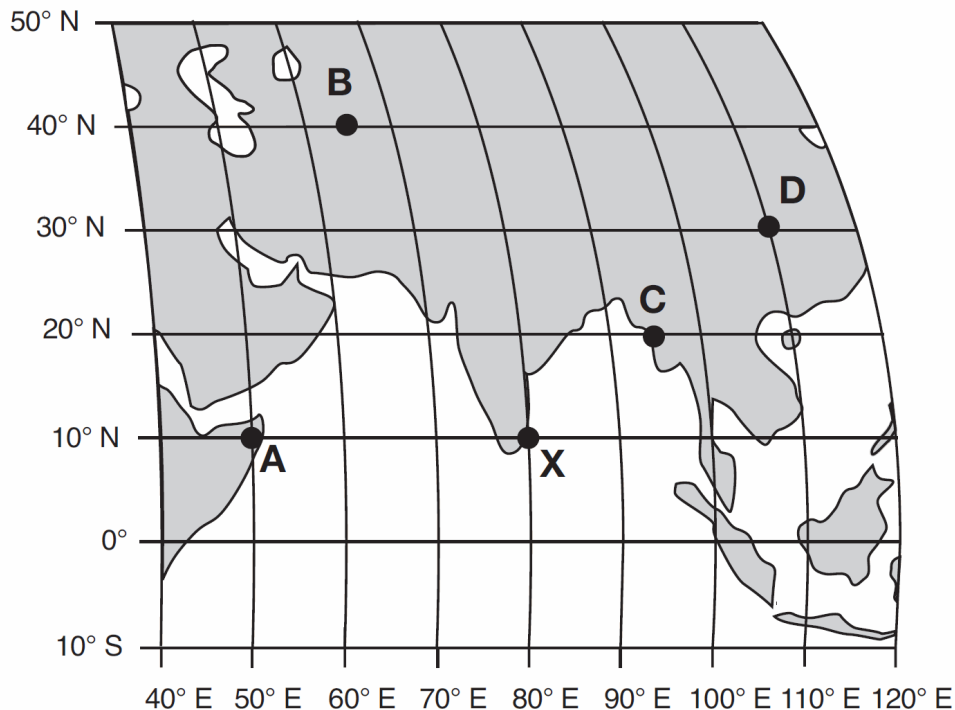
Base your answers to questions 19 and 20 on the graph below, which shows the water levels of ocean tides measured in Boston, Massachusetts, for a 2-day period.



19. If the trends shown by the graph continue, which statement best describes the next low tide at Boston that is expected to occur on Wednesday?
- A) It will occur about 10 p.m. with a 2.8-meter water level.
 - B) It will occur about 9 p.m. with a 2.6-meter water level.
 - C) It will occur about 3 a.m. with a 0.4-meter water level.
 - D) It will occur about 6 a.m. with a 0.6-meter water level.
20. The graph shows that high tides at Boston occur approximately every
- A) 6.0 hours
 - B) 12.5 hours
 - C) 3.5 hours
 - D) 16.0 hours

Midterm Review #1 - 2018

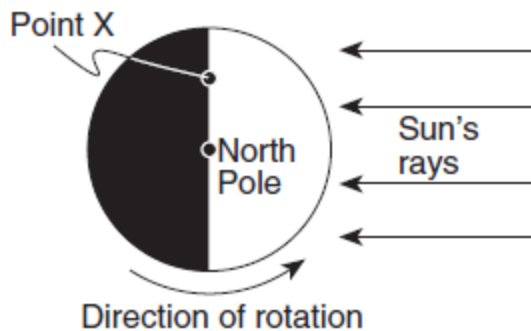
21. The map below shows a portion of Earth's system of latitude and longitude and five surface locations labeled *A*, *B*, *C*, *D*, and *X*.



Which 2 locations would record the same altitude of Polaris?

- A) *A* and *B* B) *A* and *X* C) *C* and *D* D) *B* and *D*

22. The diagram below represents the direction of Earth's rotation as it appears from above the North Pole. Point *X* is a location on Earth's surface.



The time at point *X* is closest to

- A) 6 a.m. B) 12 noon
C) 12 midnight D) 6 p.m.

23. The topographic map below shows part of a stream.

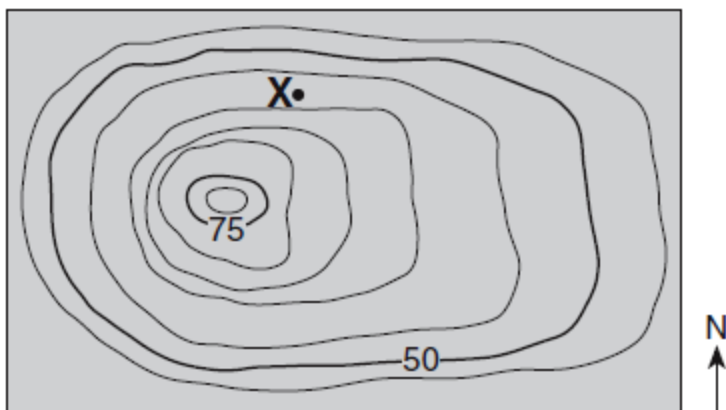


In which general direction is the stream flowing?

- A) northeast B) northwest
C) southeast D) southwest

Midterm Review #1 - 2018

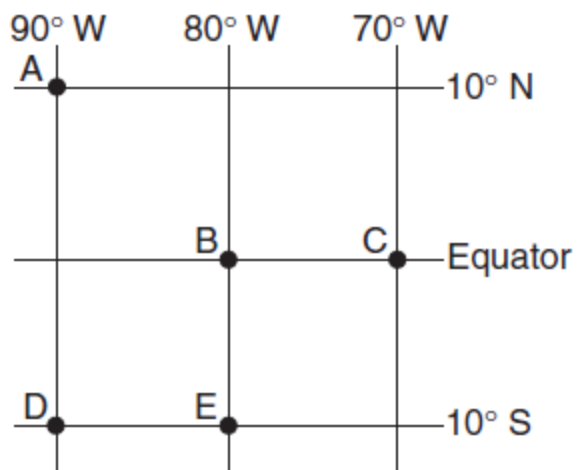
24. Point X is a location on the topographic map below. Elevations are measured in meters.



What is a possible elevation, in meters, of point X ?

- A) 55 B) 70 C) 68 D) 57

25. Base your answer to the following question on the map below, which shows the latitude and longitude of five observers, A , B , C , D , and E , on Earth.



Which two observers would be experiencing the same apparent solar time?

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