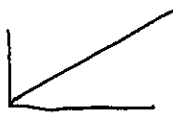

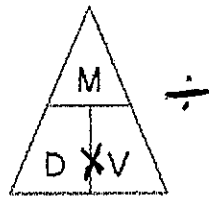


Key

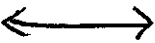
1st Quarterly Review


Facts to Know


- 1) Observation is / using your five senses to gather information
- 2) Inference is / making an educated guess based on your observations
- 3) Classification is / grouping of objects based on their characteristics
- 4) Direct relationships means / as one variable increases the other increases 
- 5) Cyclic relationships means / variables repeat and are predictable (ex. Moon Phases, Tides, and Seasons) 
- 6) Density is / how close or compact the molecules are
- 7) Density triangle / cover up the variable you want to solve for:



8) The same objects have the / same density NO MATTER WHAT SIZE

9) Latitude lines run / horizontal, but measure **north – south** of Equator (latitude = flatitude) 

10) Longitude lines run / up and down, but measure **east – west** of Prime meridian 

11) On the same line of longitude you have the same / time (based on observations from the sun) 

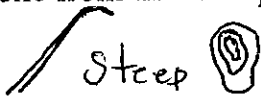

12) Time zones are separated by / 15° degrees of longitude, which equals 1 hour per time zone

13) The altitude of Polaris equals / your latitude (only in the Northern Hemisphere!)

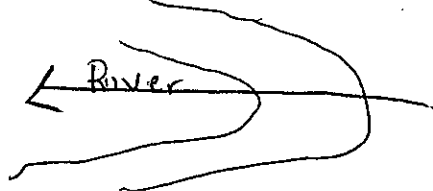
14) An isoline is / a line connecting points of equal value

15) Contour interval is the / amount between each contour line; Ocean is sea level 0'

16) To get the highest possible elevation / subtract one from the next possible contour line

17) Lines close together mean / steeper gradient  gradual 

18) Water flows / downhill; opposite the bends (“V”) in contour lines (they point upstream)



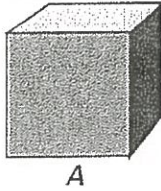
Name: _____

- 1) What is the approximate elevation of the stratopause? [Refer to the *Earth Science Reference Tables*.] Page 14
- A) 50 km B) 80 km C) 10 km D) 30 km

Questions 2 and 3 refer to the following:

The diagrams below represent four solid objects made of the same uniform material. The accepted values for the volume and mass of each object are given, except for the volume of object A.

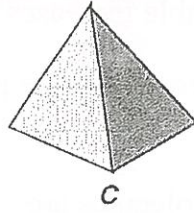
same material =
Same Density



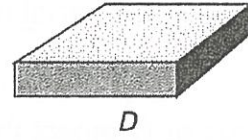
Mass = 8.00 g
Volume = ?



Mass = 6.30 g
Volume = 3.15 cm³



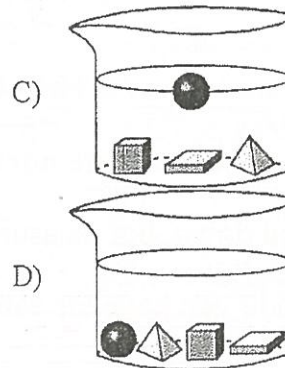
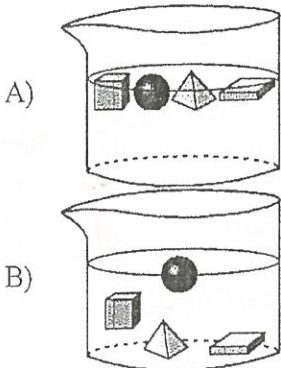
Mass = 4.00 g
Volume = 2.00 cm³



Mass = 3.50 g
Volume = 1.75 cm³

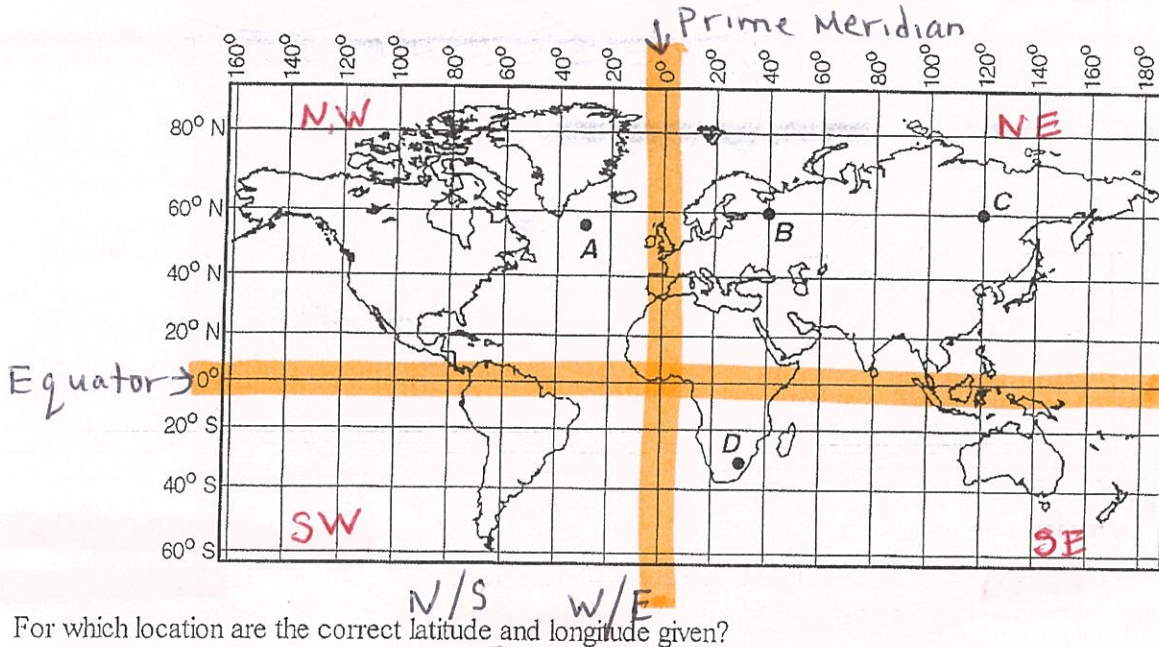
(not drawn to scale)

- 2) What is the volume of object A?
- A) 2.00 cm³ B) 4.00 cm³ C) 1.00 cm³ D) 8.00 cm³
- 3) Which diagram *best* shows what would happen if the four objects were placed in a large beaker of water at room temperature?



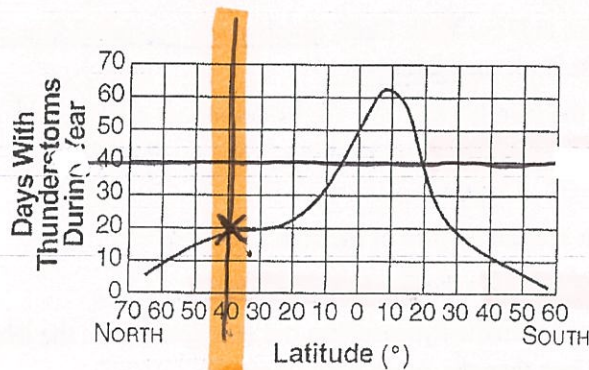
- 4) According to the *Earth Science Reference Tables*, as altitude within the troposphere increases, the amount of water vapor generally
- A) increases, only C) decreases, then increases
B) decreases, only D) remains the same
- 5) Using a ruler to measure the length of a stick is an example of
- A) predicting the length of the stick by guessing
B) measuring the rate of change of the stick by making inferences
C) extending the sense of sight by using an instrument (Ruler = instrument)
D) calculating the percent of error by using a proportion
- 6) A number of objects are grouped on the basis of common properties. What is this process called?
- A) measurement B) inference C) classification D) observation

- 7) As viewed from the Earth, the Moon's phases have shown which type of changes over the past 50 years?
 A) noncyclic and predictable
 B) cyclic and predictable
 C) cyclic and unpredictable
 D) noncyclic and unpredictable
- 8) The world map below shows latitude and longitude. Letters A, B, C, and D represent locations on the map.



For which location are the correct latitude and longitude given?

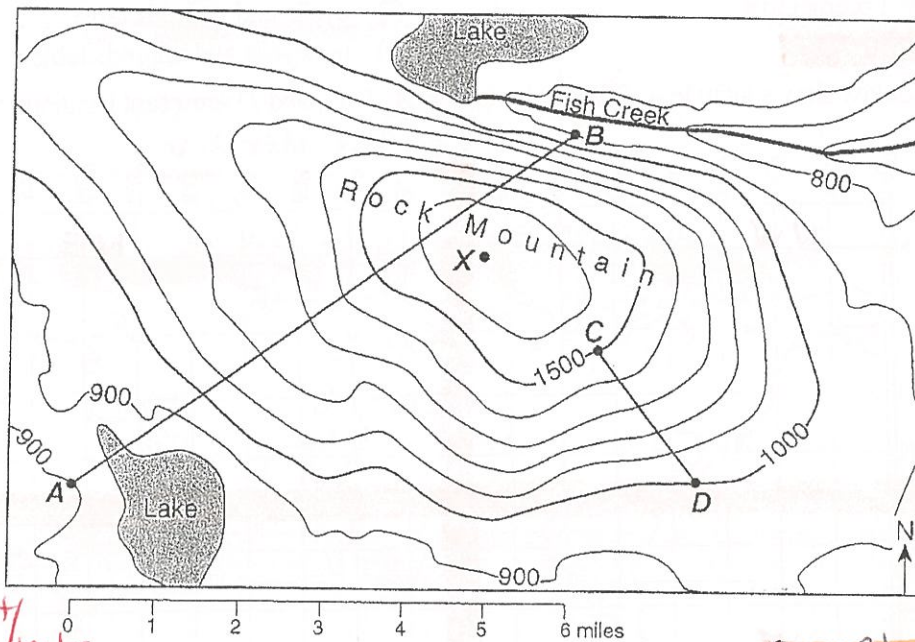
- A) A: 45°S 30°W
 B) B: 40°N 60°W
 C) C: 60°N 120°E
 D) D: 30°S 30°W
- 9) The graph below shows the average number of days each year that thunderstorms occur at different latitudes on Earth.



According to the graph, what is the approximate number of days each year that thunderstorms occur at locations along the 40°N parallel of latitude?

- A) 32 days
 B) 18 days
 C) 24 days
 D) 8 days

- 10) Points A, B, C, D, and X represent locations on the map below. Elevations are measured in feet.



$$S = \frac{\Delta FV}{\text{Distance}}$$

$$\frac{1500 - 1000 \text{ ft}}{2 \text{ m}}$$

$$\frac{500 \text{ ft}}{2 \text{ m}} = 250 \text{ ft/miles}$$

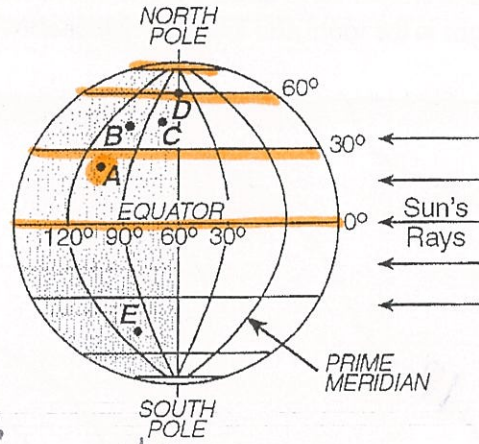
$$G = \frac{\text{Change in FV}}{\text{Distance}}$$

- What is the average gradient of the slope along straight line CD in the map?
- A) 1,000 ft/mi B) 500 ft/mi C) 250 ft/mi D) 100 ft/mi
- 11) At which New York State location will an observer most likely measure the altitude of Polaris as approximately 42°? PG 3 ESRT
- A) New York City C) Jamestown
B) Oswego D) Plattsburgh
- 12) While on a field trip to a large lake in New York State, an observer recorded four statements about this lake. Which of these statements is most likely an inference?
- A) The surface temperature of the lake is 18.5°C. (thermometer - fact)
B) The lake was formed by glacial action. (Educated guess)
C) A log is floating in the lake. (Sight)
D) The water is clear enough to see the bottom of the lake. (Sight)
- 13) Which statement most accurately describes the Earth's atmosphere?
- A) The atmosphere is more dense than the hydrosphere but less dense than the lithosphere.
B) The atmosphere's altitude is less than the depth of the ocean.
C) The atmosphere is layered, with each layer possessing distinct characteristics.
D) The atmosphere is a shell of gases surrounding most of the Earth.

Questions 14 and 15 refer to the following:

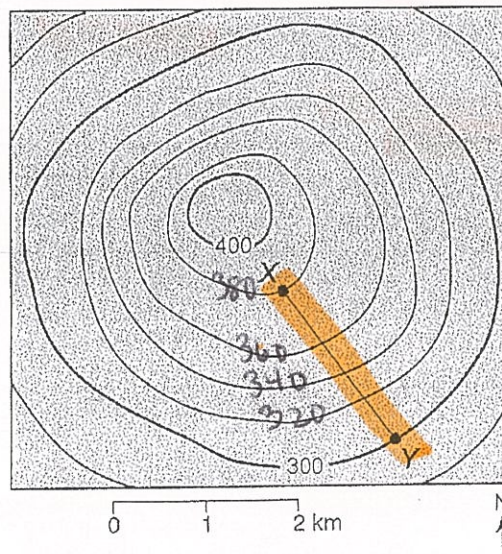
The diagram below represents the Earth. Some of the latitude and longitude lines have been labeled. Points A through E represent locations on the Earth's surface.

As latitude ↑
altitude of
Polaris ↑



Altitude of
Polaris =
latitude of the
observer

- 14) What are the approximate ^{N/S} latitude and ^{W/E} longitude of location A?
- A) 105°S, 25°E C) 105°N, 25°W
 B) 25°N, 105°W D) 25°N, 105°E
- 15) As a traveler goes from location A to location B, the altitude of Polaris will
- A) increase B) remain the same C) decrease
- 16) The topographic map below shows a hill. Points X and Y represent locations on the hill's surface. Elevations are shown in meters.



Gradient = $\frac{\text{Change E}}{\text{Distance}}$

$\frac{380 - 300 \text{ m}}{2 \text{ km}} = \frac{80 \text{ m}}{2 \text{ km}}$

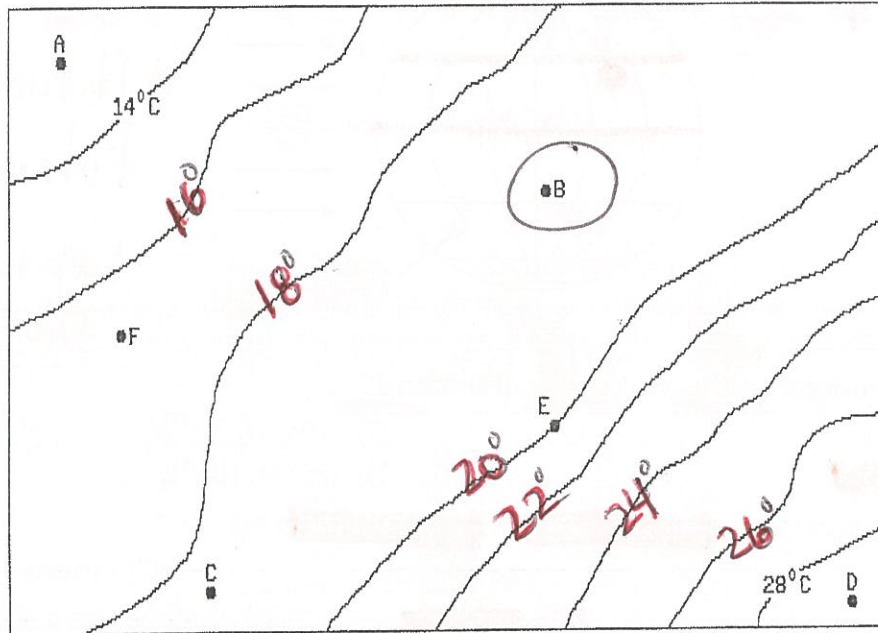
40 m/km

- What is the gradient between points X and Y?
- A) 120 m/km B) 100 m/km C) 80 m/km D) 40 m/km

17) According to the *Earth Science Reference Tables*, as altitude increases from the tropopause to the mesopause, the atmospheric temperature will

- A) increase, only
- B) decrease, only
- C) increase, then decrease
- D) decrease, then increase

18) The isoline map below represents various temperatures taken 1 meter above the floor in a closed room. Letters A through F are various locations in the room also located 1 meter above the floor.



Contour interval = 2°

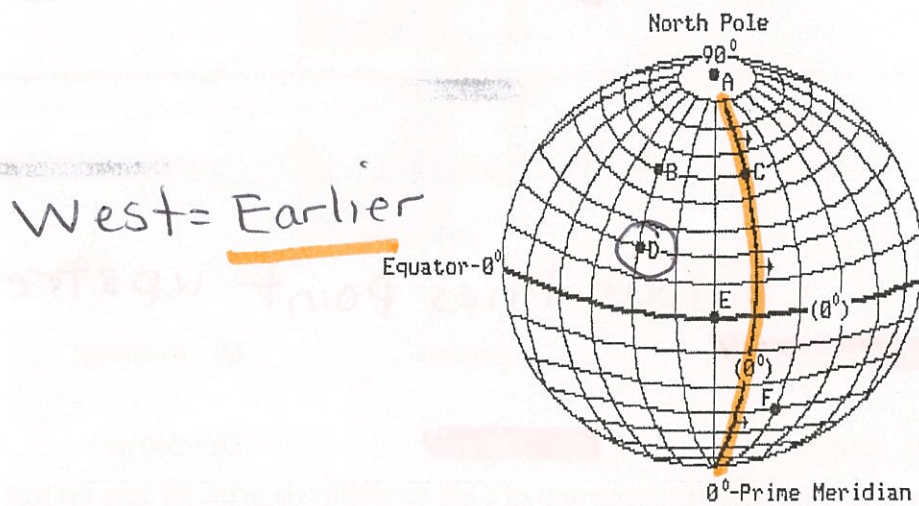
The approximate temperature at location B is

- A) 17°C
- B) 24°C
- C) 19°C
- D) 22°C

19) In the classroom during a visual inspection of a rock, a student recorded four statements about the rock. Which statement about the rock is an observation?

- A) The rock is black and shiny.
- B) The rock dates from the Precambrian Era.
- C) The rock formed deep in the Earth's interior.
- D) The rock cooled very rapidly.

- 20) The diagram below represents latitude and longitude lines on the surface of the Earth. Letters *A* through *F* represent sea level locations and the arrows show the direction of the Earth's rotation. The latitude lines shown are spaced 10° apart and the longitude lines are spaced 15° apart.



West = Earlier

East = Later

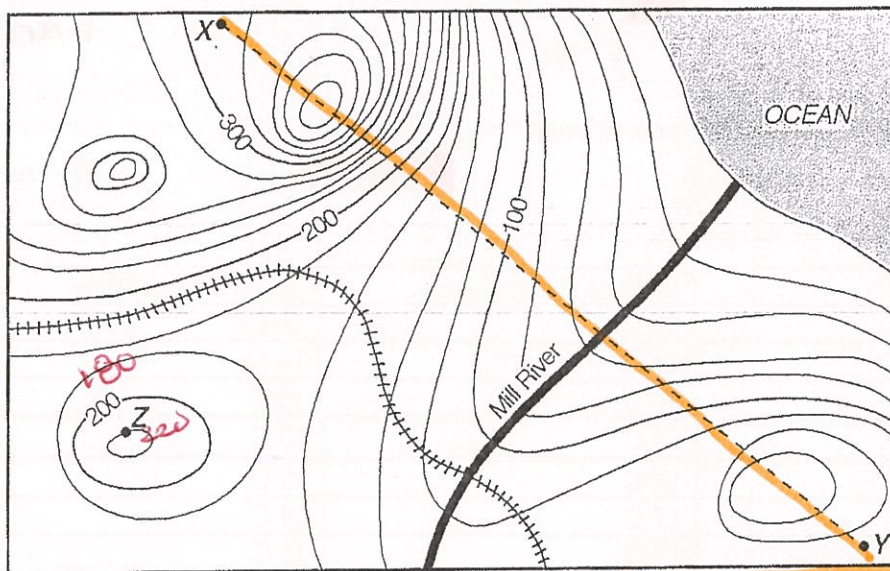
$15 + 15 + 15$
 $D \rightarrow \text{pm}$
 $15^\circ = 1 \text{ hour}$

When the Sun is at high-noon position directly over location D, what is the solar time at the Prime Meridian?

- A) 9 a.m. B) 4 p.m. C) 3 p.m. D) 12 noon

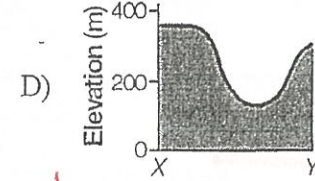
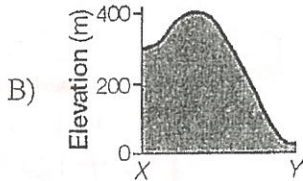
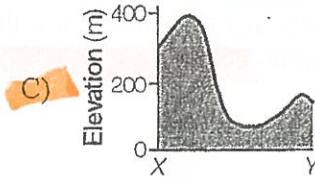
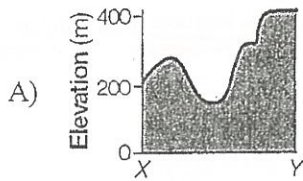
Questions 21 through 23 refer to the following:

Points *X*, *Y*, and *Z* are locations on the topographic map below. Elevations are expressed in meters.



Contour interval = 20 meters

21) Which profile *best* represents the topography along the dashed line from point X to point Y?



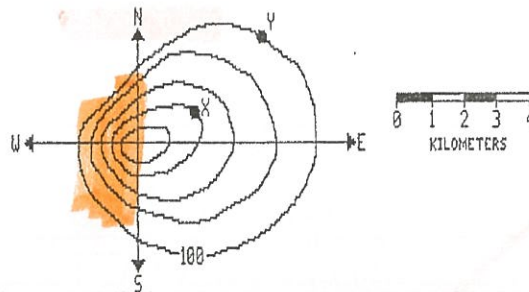
22) Mill River generally flows toward the

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

23) What is the elevation of point Z?

- A) 190 m B) 250 m C) 220 m D) 240 m

24) According to the diagram below which represents a contour map of a hill, on which side of the hill does the land have the steepest slope?



Contour Interval = 10 meters

- A) north B) east C) west D) south

Contour lines point upstream

Contour lines are closer when the land is steep

25)

Time	Outside Temperature	Inside Temperature
6 am	10 C	13 C
8 am	11 C	14 C
10 am	12 C	16 C
12 noon	15 C	20 C
2 pm	19 C	25 C
4 pm	17 C	24 C
6 pm	15 C	23 C

Based on the data table above, calculate the rate of temperature change outside the greenhouse from 6 am to 12 noon.

Rate of change = $\frac{\text{Change in value}}{\text{Time}}$

$\frac{15^\circ - 10^\circ}{6 \text{ hrs}} = \frac{5^\circ}{6 \text{ hrs}}$
 $\cdot 83^\circ/\text{hour}$