Earth System Science 5: The Atmosphere
Homework #7 answer sheet (due 6/5/2008)

Name_____ Student ID_____

Please turn in ONLY this answer sheet

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**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

1) The _____ air mass forms off the Mexican High Plateau and impacts the southwestern part of the United States.
   A) Arctic
   B) Continental Polar
   C) Maritime Polar
   D) Continental Tropical
   E) Maritime Tropical

2) The coldest air mass is:
   A) arctic.
   B) maritime polar.
   C) continental polar.
   D) continental tropical.
   E) maritime tropical.

3) Mid-latitude cyclones in the Northern Hemisphere typically travel primarily in this direction:
   A) east. B) south.
   C) north. D) west.

4) An "air mass" is a large body of air that has similar horizontal characteristics of:
   A) moisture and temperature.
   B) moisture and winds.
   C) temperature and density.
   D) density and pollen.
   E) none of the above

5) The forming of a Mid-latitude Cyclone is called:
   A) Frontolysis.
   B) Cyclogenesis.
   C) Frontogenesis.
   D) Generation.
   E) Mid-latitude bombs.

6) The boundary between a warm air mass moving into a cold air mass is called a(n):
   A) occluded front. B) warm front.
   C) cold front. D) stationary front.

7) The earliest explanation for occluded fronts held that they formed when:
   A) a cold front overtakes a warm front.
   B) a circular region of low pressure at the junction of a cold front and a warm front changed shape.
   C) two warm fronts meet while traveling in different directions.
   D) cold air aloft sunk below warm air nearer the surface.

8) This type of front has a mass of warm air cut off from the surface:
   A) stationary front. B) occluded front.
   C) warm front. D) cold front.

9) Drylines are most common in this part of North America:
   A) Southeast.
   B) southern Great Plains.
   C) Northeast.
   D) Pacific Northwest.

10) The difference between "mid-latitude" cyclones and "tropical" cyclones is that:
   A) tropical cyclones have only warm air while mid-latitude cyclones have three kinds of air.
   B) mid-latitude cyclones can only form over land.
   C) tropical cyclones can only form over water.
   D) tropical cyclones occur only during the Northern Hemisphere summer.

11) cT air masses usually form:
   A) in summer.
   B) large quantities of rain-producing clouds.
   C) in moderately cool areas.
   D) in high-latitude areas.

12) In North America, cP masses are most likely to travel:

A) west. B) east.

C) north. D) south.

13) This is the first type of cloud an observer will see when a warm front is approaching:

A) altostratus.

B) cirrus.

C) low–level stratus.

D) nimbostratus.

14) As cP air moves south from Canada to near the Gulf of Mexico, the largest drop in temperature will occur at:

A) Birmingham.

B) Minneapolis.

C) the U.S.–Canadian border.

D) Saint Louis.

15) _____ fronts usually have showery precipitation while _____ fronts usually have continuous precipitation.

A) Occluded; cold

B) Cold; warm

C) Occluded; squall lines

D) Warm; cold

E) none of the above

16) An air mass that formed over northern Canada would most likely be designated:

A) cT. B) mP.

C) mA. D) cP.

17) Air–mass source regions are least likely to be found here:

A) middle latitudes.

B) polar regions.

C) low latitudes.

D) high latitudes.

18) A mid–latitude cyclone reaches its mature stage when:

A) the storm system undergoes occlusion.

B) the storm moves over water.

C) the warm sector reaches its maximum strength.

D) the storm moves over cold air.

19) There are _____ kinds of frontal systems.

A) one

B) two

C) three

D) four

E) five

20) The boundary between two air masses is called a(n):

A) dividing line.

B) frontal system.

C) squall line.

D) instability line.

E) none of the above

21) Between a cold front and a warm front, we find:

A) a very stable air mass.

B) a warm, moist, and unstable air mass.

C) a dry air mass.

D) a cold air mass.