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**TEMA:** 0159 COMMERCIAL PILOT - (CH. 6) WEATHER

<b>COD_PREG:</b>	<b>PREGUNTA:</b>	<b>RPTA:</b>
PREG20080348	If clouds form as a result of very stable, moist air being forced to ascend a mountain slope, the clouds will be	C
<b>OPCION A:</b>	cirrus type with no vertical development or turbulence.	
<b>OPCION B:</b>	cumulus type with considerable vertical development and turbulence.	
<b>OPCION C:</b>	stratus type with little vertical development and little or no turbulence.	
<b>OPCION D:</b>		
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PREG20080349	What determines the structure or type of clouds which will form as a result of air being forced to ascend?	B
<b>OPCION A:</b>	The method by which the air is lifted.	
<b>OPCION B:</b>	The stability of the air before lifting occurs.	
<b>OPCION C:</b>	The relative humidity of the air after lifting occurs.	
<b>OPCION D:</b>		
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PREG20080332	Every physical process of weather is accompanied by or is the result of	A
<b>OPCION A:</b>	a heat exchange.	
<b>OPCION B:</b>	the movement of air.	
<b>OPCION C:</b>	a pressure differential.	
<b>OPCION D:</b>		
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PREG20080333	Which conditions are favorable for the formation of a surface based temperature inversion?	A
<b>OPCION A:</b>	Clear, cool nights with calm or light wind.	
<b>OPCION B:</b>	Area of unstable air rapidly transferring heat from the surface.	
<b>OPCION C:</b>	Broad areas of cumulus clouds with smooth, level bases at the same altitude.	
<b>OPCION D:</b>		
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PREG20080334	What causes wind?	C
<b>OPCION A:</b>	The Earth's rotation.	
<b>OPCION B:</b>	Air mass modification.	
<b>OPCION C:</b>	Pressure differences.	
<b>OPCION D:</b>		
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PREG20080335	Why does the wind have a tendency to flow parallel to the isobars above the friction level?	A
<b>OPCION A:</b>	Coriolis force tends to counterbalance the horizontal pressure gradient.	
<b>OPCION B:</b>	Coriolis force acts perpendicular to a line connecting the highs and lows.	
<b>OPCION C:</b>	Friction of the air with the Earth deflects the air perpendicular to the pressure gradient.	
<b>OPCION D:</b>		

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PREG20080336	With regard to windflow patterns shown on surface analysis charts; when the isobars are	C
<b>OPCION A:</b>	close together, the pressure gradient force is slight and wind velocities are weaker.	
<b>OPCION B:</b>	not close together, the pressure gradient force is greater and wind velocities are stronger.	
<b>OPCION C:</b>	close together, the pressure gradient force is greater and wind velocities are stronger.	
<b>OPCION D:</b>		

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PREG20080337	What prevents air from flowing directly from high-pressure areas to low-pressure areas?	A
<b>OPCION A:</b>	Coriolis force.	
<b>OPCION B:</b>	Surface friction.	
<b>OPCION C:</b>	Pressure gradient force.	
<b>OPCION D:</b>		

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PREG20080338	Which is true with respect to a high- or low-pressure system?	C
<b>OPCION A:</b>	A high-pressure area or ridge is an area of rising air.	
<b>OPCION B:</b>	A low-pressure area or trough is an area of descending air.	
<b>OPCION C:</b>	A high-pressure area or ridge is an area of descending air.	
<b>OPCION D:</b>		

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PREG20080339	Which is true regarding high- or low-pressure systems?	B
<b>OPCION A:</b>	A high-pressure area or ridge is an area of rising air.	
<b>OPCION B:</b>	A low-pressure area or trough is an area of rising air.	
<b>OPCION C:</b>	Both high- and low-pressure areas are characterized by descending air.	
<b>OPCION D:</b>		

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PREG20080340	Which is true regarding actual air temperature and dewpoint temperature spread? The temperature spread	B
<b>OPCION A:</b>	decreases as the relative humidity decreases.	
<b>OPCION B:</b>	decreases as the relative humidity increases.	
<b>OPCION C:</b>	increases as the relative humidity increases.	
<b>OPCION D:</b>		

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PREG20080341	Virga is best described as	A
<b>OPCION A:</b>	streamers of precipitation trailing beneath clouds which evaporates before reaching the ground.	
<b>OPCION B:</b>	wall cloud torrents trailing beneath cumulonimbus clouds which dissipate before reaching the ground.	
<b>OPCION C:</b>	turbulent areas beneath cumulonimbus clouds.	
<b>OPCION D:</b>		

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PREG20080342	Moisture is added to a parcel of air by	C
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- OPCION A:** sublimation and condensation.  
**OPCION B:** evaporation and condensation.  
**OPCION C:** evaporation and sublimation.  
**OPCION D:**
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- PREG20080343 Ice pellets encountered during flight normally are evidence that B  
**OPCION A:** a warm front has passed.  
**OPCION B:** a warm front is about to pass.  
**OPCION C:** there are thunderstorms in the area.  
**OPCION D:**
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- PREG20080344 What is indicated if ice pellets are encountered at 8,000 feet? A  
**OPCION A:** Freezing rain at higher altitude.  
**OPCION B:** You are approachig an area of thunderstorms.  
**OPCION C:** You will encounter hail if you continue your flight.  
**OPCION D:**
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- PREG20080345 Ice pellets encountered during flight are normally evidence that C  
**OPCION A:** a cold front has passed.  
**OPCION B:** there are thunderstorms in the area.  
**OPCION C:** freezing rain exists at hiher altitudes.  
**OPCION D:**
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- PREG20080346 When conditionally unstable air with high-moisture content and very warm C  
surface temperature is forecast, one can expect what type of weather?  
**OPCION A:** Strong updrafts and stratonimbus clouds.  
**OPCION B:** Restricted visibility near the surface over a large area.  
**OPCION C:** Strong updrafts and cumulonimbus clouds.  
**OPCION D:**
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- PREG20080347 What is the approximate base of the cumulus clouds if the temperature at C  
2,000 feet MSL is 10°C and the dewpoint is 1°C?  
**OPCION A:** 3,000 feet MSL.  
**OPCION B:** 4,000 feet MSL.  
**OPCION C:** 6,000 feet MSL.  
**OPCION D:**
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- PREG20080350 Refer to the excerpt from the following METAR report: B  
  
KTUS.....08004KT 4SM HZ.....26/04 A2995 RMK RAE36  
  
At approximately what altitude AGL should bases of convective-type  
cumuliform clouds be expected?  
**OPCION A:** 4,400 feet.  
**OPCION B:** 8,800 feet.

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**OPCION C:** 17,600 feet.

**OPCION D:**

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PREG20080351 What are the characteristics of stable air? B

**OPCION A:** Good visibility; steady precipitation; stratus clouds.

**OPCION B:** Poor visibility; steady precipitation; stratus clouds.

**OPCION C:** Poor visibility; intermittent precipitation; cumulus clouds.

**OPCION D:**

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PREG20080352 Which would decrease the stability of an air mass? A

**OPCION A:** Warming from below.

**OPCION B:** Cooling from below.

**OPCION C:** Decrease in water vapor.

**OPCION D:**

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PREG20080353 From which measurement of the atmosphere can stability be determined? B

**OPCION A:** Atmospheric pressure.

**OPCION B:** The ambient lapse rate.

**OPCION C:** The dry adiabatic lapse rate.

**OPCION D:**

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PREG20080354 What type weather can one expect from moist, unstable air, and very warm surface temperatures? C

**OPCION A:** Fog and low stratus clouds.

**OPCION B:** Continuous heavy precipitation.

**OPCION C:** Strong updrafts and cumulonimbus clouds.

**OPCION D:**

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PREG20080355 Which would increase the stability of an air mass? B

**OPCION A:** Warming from below.

**OPCION B:** Cooling from below.

**OPCION C:** Decrease in water vapor.

**OPCION D:**

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PREG20080356 The conditions necessary for the formation of stratiform clouds are a lifting action and B

**OPCION A:** unstable, dry air.

**OPCION B:** stable, moist air.

**OPCION C:** unstable, moist air.

**OPCION D:**

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PREG20080357 Which cloud types would indicate convective turbulence? C

**OPCION A:** Cirrus clouds.

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**OPCION B:** Nimbostratus clouds.  
**OPCION C:** Towering cumulus clouds.  
**OPCION D:**

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PREG20080358 The presence of standing lenticular altocumulus clouds is a good indication of B

**OPCION A:** lenticular ice formation in calm air.  
**OPCION B:** very strong turbulence.  
**OPCION C:** heavy icing conditions.  
**OPCION D:**

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PREG20080359 The formation of either predominantly stratiform or predominantly cumuliform clouds is dependent upon the B

**OPCION A:** source of lift.  
**OPCION B:** stability of the air being lifted.  
**OPCION C:** temperature of the air being lifted.  
**OPCION D:**

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PREG20080360 Which combination of weather-producing variables would likely result in cumuliform-type clouds, good visibility, and showery rain? B

**OPCION A:** Stable, moist air and orographic lifting.  
**OPCION B:** Unstable, moist air and orographic lifting.  
**OPCION C:** Unstable, moist air and no lifting mechanism.  
**OPCION D:**

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PREG20080361 What is a characteristic of stable air? A

**OPCION A:** Stratiform clouds.  
**OPCION B:** Fair weather cumulus clouds.  
**OPCION C:** Temperature decreases rapidly with altitude.  
**OPCION D:**

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PREG20080362 A moist, unstable air mass is characterized by B

**OPCION A:** poor visibility and smooth air.  
**OPCION B:** cumuliform clouds and showery precipitation.  
**OPCION C:** stratiform clouds and continuous precipitation.  
**OPCION D:**

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PREG20080363 When an air mass is stable, which of these conditions are most likely to exist? C

**OPCION A:** Numerous towering cumulus and cumulonimbus clouds.  
**OPCION B:** Moderate to severe turbulence at the lower levels.  
**OPCION C:** Smoke, dust, haze, etc., concentrated at the lower levels with resulting poor visibility.  
**OPCION D:**

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PREG20080364	Which is a characteristic of stable air?	C
<b>OPCION A:</b>	Cumuliform clouds.	
<b>OPCION B:</b>	Excellent visibility.	
<b>OPCION C:</b>	Restricted visibility.	
<b>OPCION D:</b>		

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PREG20080365	Which is a characteristic typical of a stable air mass?	C
<b>OPCION A:</b>	Cumuliform clouds.	
<b>OPCION B:</b>	Showery precipitation.	
<b>OPCION C:</b>	Continuous precipitation.	
<b>OPCION D:</b>		

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PREG20080366	Which is true regarding a cold front occlusion? The air ahead of the warm front	B
<b>OPCION A:</b>	is colder than the air behind the overtaking cold front.	
<b>OPCION B:</b>	is warmer than the air behind the overtaking cold front.	
<b>OPCION C:</b>	has the same temperature as the air behind the overtaking cold front.	
<b>OPCION D:</b>		

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PREG20080367	Which are characteristics of a cold air mass moving over a warm surface?	B
<b>OPCION A:</b>	Cumuliform clouds, turbulence, and poor visibility.	
<b>OPCION B:</b>	Cumuliform clouds, turbulence, and good visibility.	
<b>OPCION C:</b>	Stratiform clouds, smooth air, and poor visibility.	
<b>OPCION D:</b>		

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PREG20080368	The conditions necessary for the formation of cumulonimbus clouds are a lifting action and	C
<b>OPCION A:</b>	unstable, dry air.	
<b>OPCION B:</b>	stable, moist air.	
<b>OPCION C:</b>	unstable, moist air.	
<b>OPCION D:</b>		

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PREG20080369	Fog produced by frontal activity is a result of saturation due to	C
<b>OPCION A:</b>	nocturnal cooling.	
<b>OPCION B:</b>	adiabatic cooling.	
<b>OPCION C:</b>	evaporation of precipitation.	
<b>OPCION D:</b>		

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PREG20080370	What is an important characteristic of wind shear?	C
<b>OPCION A:</b>	It is present at only lower levels and exists in a horizontal direction.	
<b>OPCION B:</b>	It is present at any level and exists in only a vertical direction.	
<b>OPCION C:</b>	It can be present at any level and can exist in both a horizontal and vertical direction.	

**OPCION D:**

PREG20080371 Hazardous wind shear is commonly encountered near warm or stationary frontal activity. **C**

**OPCION A:** near warm or stationary frontal activity.

**OPCION B:** when the wind velocity is stronger than 35 knots.

**OPCION C:** in areas of temperature inversion and near thunderstorms.

**OPCION D:**

PREG20080372 Low-level wind shear may occur when surface winds are light and variable. **B**

**OPCION A:** surface winds are light and variable.

**OPCION B:** there is a low-level temperature inversion with strong winds above the inversion.

**OPCION C:** surface winds are above 15 knots and there is no change in wind direction and windspeed with height.

**OPCION D:**

PREG20080373 If a temperature inversion is encountered immediately after takeoff or during an approach to a landing, a potential hazard exists due to wind shear. **A**

**OPCION A:** wind shear.

**OPCION B:** strong surface winds.

**OPCION C:** strong convective currents.

**OPCION D:**

PREG20080374 GIVEN: **A**

Winds at 3,000 feet AGL ..... 30 kts  
Surface winds ..... Calm

While on approach for landing under clear skies with convective turbulence a few hours after sunrise, one should

**OPCION A:** increase approach airspeed slightly above normal to avoid stalling.

**OPCION B:** keep the approach airspeed at or slightly below normal to compensate for floating.

**OPCION C:** not alter the approach airspeed, these conditions are nearly ideal.

**OPCION D:**

PREG20080375 Convective currents are most active on warm summer afternoons when winds are light. **A**

**OPCION A:** light.

**OPCION B:** moderate.

**OPCION C:** strong.

**OPCION D:**

PREG20080376 When flying low over hilly terrain, ridges, or mountain ranges, the greatest potential danger from turbulent air currents will usually be encountered on the leeward side when flying with a tailwind. **B**

**OPCION A:**

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- OPCION B:** leeward side when flying into the wind.  
**OPCION C:** windward side when flying into the wind.  
**OPCION D:**
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PREG20080377 During an approach, the most important and most easily recognized means of being alerted to possible wind shear is monitoring the C

- OPCION A:** amount of trim required to relieve control pressures.  
**OPCION B:** heading changes necessary to remain on the runway centerline.  
**OPCION C:** power and vertical velocity required to remain on the proper glidepath.  
**OPCION D:**
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PREG20080378 During departure, under conditions of suspected low-level wind shear, a sudden decrease in headwind will cause A

- OPCION A:** a loss in airspeed equal to the decrease in wind velocity.  
**OPCION B:** a gain in airspeed equal to the decrease in wind velocity.  
**OPCION C:** no change in airspeed, but groundspeed will decrease.  
**OPCION D:**
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PREG20080379 Which situation would most likely result in freezing precipitation? Rain falling from air which has a temperature of C

- OPCION A:** 32°F or less into air having a temperature of more than 32°F.  
**OPCION B:** 0°C or less into air having a temperature of 0°C or more.  
**OPCION C:** more than 32°F into air having temperature of 32°F or less.  
**OPCION D:**
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PREG20080380 Which statement is true concerning the hazards of hail? C

- OPCION A:** Hail damage in horizontal flight is minimal due to the vertical movement of hail in the clouds.  
**OPCION B:** Rain at the surface is a reliable indication of no hail aloft.  
**OPCION C:** Hailstones may be encountered in clear air several miles from a thunderstorm.  
**OPCION D:**
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PREG20080381 Hail is most likely to be associated with B

- OPCION A:** cumulus clouds.  
**OPCION B:** cumulonimbus clouds.  
**OPCION C:** stratocumulus clouds.  
**OPCION D:**
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PREG20080382 The most severe weather conditions, such as destructive winds, heavy hail, and tornadoes, are generally associated with B

- OPCION A:** slow-moving warm fronts which slope above the tropopause.  
**OPCION B:** squall lines.  
**OPCION C:** fast-moving occluded fronts.  
**OPCION D:**
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- PREG20080383 Of the following, which is accurate regarding turbulence associated with thunderstorms? C
- OPCION A:** Outside the cloud, shear turbulence can be encountered 50 miles laterally from a severe storm.
- OPCION B:** Shear turbulence is encountered only inside cumulonimbus clouds or within a 5-mile radius of them.
- OPCION C:** Outside the cloud, shear turbulence can be encountered 20 miles laterally from a severe storm.
- OPCION D:**
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- PREG20080384 If airborne radar is indicating an extremely intense thunderstorm echo, this thunderstorm should be avoided by a distance of at least A
- OPCION A:** 20 miles.
- OPCION B:** 10 miles.
- OPCION C:** 5 miles.
- OPCION D:**
- 

- PREG20080385 Which statement is true regarding squall lines? C
- OPCION A:** They are always associated with cold fronts.
- OPCION B:** They are slow in forming, but rapid in movement.
- OPCION C:** They are nonfrontal and often contain severe, steady-state thunderstorms.
- OPCION D:**
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- PREG20080386 Which statement is true concerning squall lines? C
- OPCION A:** They form slowly, but move rapidly.
- OPCION B:** They are associated with frontal systems only.
- OPCION C:** They offer the most intense weather hazards to aircraft.
- OPCION D:**
- 

- PREG20080387 Select the true statement pertaining to the life cycle of a thunderstorm. B
- OPCION A:** Updrafts continue to develop throughout the dissipating stage of a thunderstorm.
- OPCION B:** The beginning of rain at the Earth's surface indicates the mature stage of the thunderstorm.
- OPCION C:** The beginning of rain at the Earth's surface indicates the dissipating stage of the thunderstorm.
- OPCION D:**
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- PREG20080388 What visible signs indicate extreme turbulence in the thunderstorms? C
- OPCION A:** Base of the clouds near the surface, heavy rain, and hail.
- OPCION B:** Low ceiling and visibility, hail, and precipitation static.
- OPCION C:** Cumulonimbus clouds, very frequent lightning, and roll clouds.
- OPCION D:**
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PREG20080389	Which weather phenomenon signals the beginning of the mature stage of a thunderstorm?	A
<b>OPCION A:</b>	The start of rain.	
<b>OPCION B:</b>	The appearance of an anvil top.	
<b>OPCION C:</b>	Growth rate of clouds is maximum.	
<b>OPCION D:</b>		

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PREG20080390	What feature is normally associated with the cumulus stage of a thunderstorm?	B
<b>OPCION A:</b>	Roll cloud.	
<b>OPCION B:</b>	Continuous updraft.	
<b>OPCION C:</b>	Beginning of rain at the surface.	
<b>OPCION D:</b>		

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PREG20080391	During the life cycle of a thunderstorm, which stage is characterized predominately by downdrafts?	C
<b>OPCION A:</b>	Mature.	
<b>OPCION B:</b>	Developing.	
<b>OPCION C:</b>	Dissipating.	
<b>OPCION D:</b>		

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PREG20080392	What minimum distance should exist between intense radar echoes before any attempt is made to fly between these thunderstorms?	C
<b>OPCION A:</b>	20 miles.	
<b>OPCION B:</b>	30 miles.	
<b>OPCION C:</b>	40 miles.	
<b>OPCION D:</b>		

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PREG20080393	Which in-flight hazard is most commonly associated with warm fronts?	C
<b>OPCION A:</b>	Advection fog.	
<b>OPCION B:</b>	Radiation fog.	
<b>OPCION C:</b>	Precipitation-induced fog.	
<b>OPCION D:</b>		

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PREG20080394	Which is true regarding the use of airborne weather-avoidance radar for the recognition of certain weather conditions?	A
<b>OPCION A:</b>	The radarscope provides no assurance of avoiding instrument weather conditions.	
<b>OPCION B:</b>	The avoidance of hail is assured when flying between and just clear of the most intense echoes.	
<b>OPCION C:</b>	The clear area between intense echoes indicates that visual sighting of storms can be maintained when flying between the echoes.	
<b>OPCION D:</b>		

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PREG20080395	A situation most conducive to the formation of advection fog is	B
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- OPCION A:** a light breeze moving colder air over a water surface.  
**OPCION B:** an air mass moving inland from the coastline during the winter.  
**OPCION C:** a warm, moist air mass settling over a cool surface under no-wind conditions.  
**OPCION D:**
- 

PREG20080396 Advection fog has drifted over a coastal airport during the day. What may tend to dissipate or lift this fog into low stratus clouds? C

- OPCION A:** Nighttime cooling.  
**OPCION B:** Surface radiation.  
**OPCION C:** Wind 15 knots or stronger.  
**OPCION D:**
- 

PREG20080397 What lifts advection fog into low stratus clouds? C

- OPCION A:** Nighttime cooling.  
**OPCION B:** Dryness of the underlying land mass.  
**OPCION C:** Surface winds of approximately 15 knots or stronger.  
**OPCION D:**
- 

PREG20080398 In what ways do advection fog, radiation fog, and steam fog differ in their formation or location? A

- OPCION A:** Radiation fog is restricted to land areas; advection fog is most common along coastal areas; steam fog forms over a water surface.  
**OPCION B:** Advection fog deepens as windspeed increases up to 20 knots; steam fog requires calm or very light wind; radiation fog forms when the ground or water cools the air by radiation.  
**OPCION C:** Steam fog forms from moist air moving over a colder surface; advection fog requires cold air over a warmer surface; radiation fog is produced by radiational cooling of the ground.  
**OPCION D:**
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PREG20080399 With respect to advection fog, which statement is true? C

- OPCION A:** It is slow to develop, and dissipates quite rapidly.  
**OPCION B:** It forms almost exclusively at night or near daybreak.  
**OPCION C:** It can appear suddenly during day or night, and it is more persistent than radiation fog.  
**OPCION D:**
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PREG20080400 Which feature is associated with the tropopause? B

- OPCION A:** Constant height above the Earth.  
**OPCION B:** Abrupt change in temperature lapse rate.  
**OPCION C:** Absolute upper limit of cloud formation.  
**OPCION D:**
- 

PREG20080401 A common location of clear air turbulence is A

- OPCION A:** in an upper trough on the polar side of a jet stream.

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- OPCION B:** near a ridge aloft on the equatorial side of a high-pressure flow.  
**OPCION C:** south of an east/west oriented high-pressure ridge in its dissipating stage.  
**OPCION D:**
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- PREG20080402 The jet stream and associated clear and air turbulence can sometimes be visually identified in flight by **B**
- OPCION A:** dust or haze at flight level.  
**OPCION B:** long streaks or cirrus clouds.  
**OPCION C:** a constant outside air temperature.  
**OPCION D:**
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- PREG20080403 During the winter months in the middle latitudes, the jet stream shifts toward the **B**
- OPCION A:** north and speed decreases.  
**OPCION B:** south and speed increases.  
**OPCION C:** north and speed increases.  
**OPCION D:**
- 

- PREG20080404 The strength and location of the jet stream is normally **A**
- OPCION A:** weaker and farther north in the summer.  
**OPCION B:** stronger and farther north in the winter.  
**OPCION C:** stronger and farther north in the summer.  
**OPCION D:**
- 

- PREG20080406 Which type of jetstream can be expected to cause the greater turbulence? **B**
- OPCION A:** A straight jetstream associated with a low-pressure trough.  
**OPCION B:** A curving associated with a deep low-pressure trough.  
**OPCION C:** A jetstream occurring during the summer at the lower latitudes.  
**OPCION D:**
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- PREG20080407 A strong wind shear can be expected **C**
- OPCION A:** in the jetstream front above a core having a speed of 60 to 90 knots.  
**OPCION B:** if the 5°C isotherms are spaced between 7° to 10° of latitude.  
**OPCION C:** on the low-pressure side of a jetstream core where the speed at the core is stronger than 110 knots.  
**OPCION D:**
- 

- PREG20080405 The conditions most favorable to wave formation over mountainous areas are a layer of **A**
- OPCION A:** stable air at mountaintop altitude and a wind of at least 20 knots blowing across the ridge.  
**OPCION B:** unstable air at mountaintop altitude and a wind of at least 20 knots blowing across the ridge.  
**OPCION C:** moist, unstable air at mountaintop altitude and a wind of less than 5 knots blowing across the ridge.

**OPCION D:**

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PREG20080408 One of the most dangerous features of mountain waves is the turbulent areas in and A

**OPCION A:** below rotor clouds.

**OPCION B:** above rotor clouds.

**OPCION C:** below lenticular clouds.

**OPCION D:**

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PREG20080409 Frost covering the upper surface of an airplane wing usually will cause B

**OPCION A:** the airplane to stall at an angle of attack that is higher than normal.

**OPCION B:** the airplane to stall at an angle of attack that is lower than normal.

**OPCION C:** drag factors so large that sufficient speed cannot be obtained for takeoff.

**OPCION D:**

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