1. Which of the following tends to produce lower temperatures overnight?

A. low-level winds
B. clear skies
C. dew formation
D. all of the above
E. both B and C
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2. The transfer of heat through molecules colliding with each other is

A. conduction
B. convection
C. radiation
D. latent heat
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3. On a *hot, dry* day in El Paso, the lowest 2 km of the atmosphere gets warmed by several degrees during the course of the day. Over most of this layer, the heat is transferred most effectively by

A. absorption of shortwave radiation from the sun
B. conduction of heat upwards from the ground
C. convection of warm air upwards from near the ground
D. shortwave radiation reflected from the ground
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4. Suppose that on a spring day the input of solar radiation at the ground, as well as the net energy output (IR, conduction, etc) at the ground, are as shown below. At approximately what time do you expect the maximum daily temperature in this case?

A. noon  
B. 1 pm  
C. 4 pm  
D. 6 pm
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5. Convergence of air aloft would cause the surface pressure to ________, while divergence would cause the surface pressure to ________.

A. decrease, increase
B. decrease, decrease
C. increase, decrease
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6. Which of the following happens when water vapor condenses to form a cloud droplet?

A. carbon dioxide is removed from the air
B. carbon dioxide is released to the air
C. heat is removed from the surroundings, cooling the air
D. heat is released to the surroundings, warming the air
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7. On a surface map we usually show *isobars*, or lines of constant pressure. What's shown on an upper-level chart instead?

A. the height of a pressure surface
B. contours of pressure *and* temperature
C. just the temperature contours
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8. The amount of mass between the 200 mb and 500 mb pressure levels is

A. greatest when it's cold
B. greatest when it's warm
C. always the same
D. steadily decreasing
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9. The figure below shows the height of the 500 mb pressure surface as shown in an east-west vertical cross section. Which point in the figure has the lowest pressure?
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10. Of the states listed below, which do you expect to have the highest record maximum temperature?

A. Alaska
B. North Dakota
C. Hawaii
D. Maine
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11. Inspired by Valentine's Day, Bob decides to travel to Buenos Aires, Argentina (in South America) so he can learn the tango. Should he pack a warm parka and ski cap?

A. probably, since Feb 14 is still winter

B. probably not, since Feb 14 is actually summer in Argentina

C. most definitely.....las Argentinas go loca for a sharp-dressed gringo
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12. Suppose that today were one of the days given below, as referenced to the Northern Hemisphere. For which of these days will tomorrow be shorter than today?

A. the Spring Equinox
B. the Summer Solstice
C. the Winter Solstice
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