Which weather instrument is used to measure wind speed?
(1) anemometer  (3) psychrometer
(2) wind vane    (4) thermometer

Wind moves from regions of
(1) high temperature toward regions of low temperature
(2) high pressure toward regions of low pressure
(3) high precipitation toward regions of low precipitation
(4) high humidity toward regions of low humidity

The diagram below shows the Earth’s high and low air pressure belts and direction of prevailing winds for a particular time of the year. The winds do not appear to blow in a straight line from the high-pressure belts to the low-pressure belts. Which statement best explains this observation?

Air pressure is usually highest when the air is
(1) cool and humid  (3) warm and humid
(2) cool and dry      (4) warm and dry

Wind velocity is most directly dependent on the
(1) gradient of the air pressure field
(2) value of the Coriolis effect
(3) moisture content of the air
(4) rotational velocity of the Earth

During the warmest part of a June day, breezes blow from the ocean toward the shore at the beach. Which statement best explains why this happens?
(1) Winds usually blow from hot to cold areas.
(2) Winds never blow from the shore toward the ocean.
(3) Air pressure over the ocean is higher than air pressure over the land.
(4) Air pressure over the land is higher than air pressure over the ocean.

Which conditions are most likely to develop over a land area next to an ocean during a hot, sunny afternoon?
(1) The air temperature over the land is lower than the air temperature over the ocean, and a breeze blows from the land.
(2) The air temperature over the land is higher than the air temperature over the ocean, and a breeze blows from the land.
(3) The air pressure over the land is higher than the air pressure over the ocean, and a breeze blows from the ocean.
(4) The air pressure over the land is lower than the air pressure over the ocean, and a breeze blows from the ocean.
Which atmospheric conditions would cause smoke from a campfire on a beach to blow toward the ocean?
(1) warm air over the land and cool air over the ocean
(2) humid air over the land and dry air over the ocean
(3) low-density air over the land and high-density air over the ocean
(4) high air pressure over the land and low air pressure over the ocean

Earth’s surface winds generally blow from regions of higher
(1) air temperature toward regions of lower air temperature
(2) air pressure toward regions of lower air pressure
(3) latitudes toward regions of lower latitudes
(4) elevations toward regions of lower elevations

Which list correctly matches each instrument with the weather variable it measures?
(1) wind vane—wind speed
     thermometer—temperature
     precipitation gauge—relative humidity
(2) wind vane—wind direction
     thermometer—dewpoint
     psychrometer—air pressure
(3) barometer—relative humidity
     anemometer—cloud cover
     precipitation gauge—probability of precipitation
(4) barometer—air pressure
     anemometer—wind speed
     psychrometer—relative humidity

The cross section below shows a sea breeze blowing from the ocean toward the land. The air pressure at the land surface is 1013 millibars.

The air pressure at the ocean surface a few miles from the shore is most likely
(1) 994 mb  (3) 1013 mb
(2) 1005 mb  (4) 1017 mb

Wind is caused mainly by air-pressure differences that result from
(1) uneven heating of Earth’s atmosphere
(2) absorption of ultraviolet radiation by Earth’s landmasses
(3) radiation of heat from Earth’s landmasses to water bodies
(4) rotation of Earth on its axis
In the diagram below, arrows represent air movement near an ocean coastline on a summer afternoon.

Compared to the air over the ocean, the air over the land has a
(1) lower temperature and lower barometric pressure
(2) lower temperature and higher barometric pressure
(3) higher temperature and lower barometric pressure
(4) higher temperature and higher barometric pressure
14. Base your answer to the following question on the diagram below, which shows Earth's planetary wind belts and pressure belts.

The best inference that can be made from this diagram is that winds blow from regions of
(1) high latitude to regions of low latitude
(2) high pressure to regions of low pressure
(3) high elevation to regions of low elevation
(4) high temperature to regions of low temperature

An instrument used to measure a weather variable is shown below.

Which weather variable is measured by this instrument?
(1) wind direction  (3) wind speed
(2) air pressure    (4) amount of rainfall
1. 1
2. 2
3. 1
4. 2
5. 1
6. 3
7. 4
8. 4
9. 2
10. 4
11. 4
12. 1
13. 3
14. 2
15. 3