Winter Trivia

Choose one answer per question. Circle A, B, C, or D.

1. A textbook shows one star-shaped snow crystal with its main arms intact. How many main arms does this classic shape have?
   A. Six
   B. Four
   C. Five
   D. Eight

2. How does a snowshoe hare's mostly white winter coat help it in a snowy forest?
   A. It makes the hare's feet wider.
   B. It makes the hare easier to see against snow.
   C. It makes the hare harder to see against snow.
   D. It improves the hare's hearing in deep snow.

3. A tamarack grows cones, but its needles turn yellow and fall before winter. What kind of tree is it?
   A. An evergreen conifer
   B. A deciduous conifer
   C. An evergreen flowering tree
   D. A deciduous palm

4. At a town at 40 degrees north latitude, which seasonal event brings the fewest hours of daylight?
   A. The September equinox
   B. The March equinox
   C. The June solstice
   D. The December solstice

5. On what date does Punxsutawney, Pennsylvania, hold its traditional Groundhog Day observance?
   A. January 2
   B. February 2
   C. February 14
   D. March 2

6. A park sign shows a vole in the space just beneath a deep blanket of snow. How can the overlying snow help keep that space warmer than the exposed air?

A. It insulates the space and slows heat loss.
B. It releases heat continually as snowflakes fall.
C. It reflects sunlight downward through the whole snowpack.
D. It constantly replaces the air below with air from above.

7. Fresh white snow and dark asphalt receive the same amount of incoming sunlight. Which reflects a larger share, and why?

A. They reflect equal shares because the incoming sunlight is equal.
B. Snow, because its albedo is lower.
C. Asphalt, because its albedo is higher.
D. Snow, because its albedo is higher.

8. Which instrument did Wilson Bentley pair with a camera to photograph a single snow crystal in 1885?

A. A barometer
B. A telescope
C. A microscope
D. A sundial

9. A weather observer records raindrops falling as liquid, then forming a clear ice coating when they strike cold tree branches. What kind of precipitation is recorded?

A. Freezing rain
B. Sleet
C. Snow
D. Hail

10. On clear days at 40 degrees north, the same upright post stands on level ground at local solar noon on both solstices. How does its December shadow compare with its June shadow?

A. It is the same length because the post is unchanged.
B. It is shorter because the Sun is lower in the sky.
C. It is longer because the Sun is higher in the sky.
D. It is longer because the Sun is lower in the sky.

11. A Northern Hemisphere report counts every day of meteorological winter from December through February. The winter ends in a leap year. How many days belong in the report?

A. 90 days
B. 89 days
C. 91 days
D. 92 days

12. Two fictional plots have the same area. Plot A has 26 cm of snow with 3 cm of snow water equivalent. Plot B has 18 cm of snow with 6 cm of snow water equivalent. Which snowpack holds more water?

A. Plot A holds twice as much as plot B.
B. Plot B holds twice as much as plot A.
C. Plot A holds more because its snow is deeper.
D. Both hold the same amount of water.

13. Cold air is moving from west to east across a fictional lake whose surface is warmer than the air. All else being equal, which location is most likely to get lake-effect snow from this crossing?

A. Land directly south of the lake, outside the air's path
B. Land just west of the lake, before the air crosses the water
C. Land directly north of the lake, outside the air's path
D. Land just east of the lake, after the air crosses the water

14. An exhibit says the Kohrs ranch stored winter ice in a thick-walled log room built around 1880. A visitor wonders how the ice could still help cool food in summer. What does the National Park Service account support?

A. The insulated room slowed melting, leaving ice available in warmer months.
B. The room had open windows to bring in warm summer air.
C. The ranch gathered most of its creek ice at the height of summer.
D. Powered freezers inside the room made fresh ice year-round.

15. In a fictional winter report, ice covers 25% of a lake that spans 120 square kilometers and 75% of a lake that spans 80 square kilometers. What percentage of their combined surface area is ice-covered?

A. 55%
B. 50%
C. 45%
D. 75%