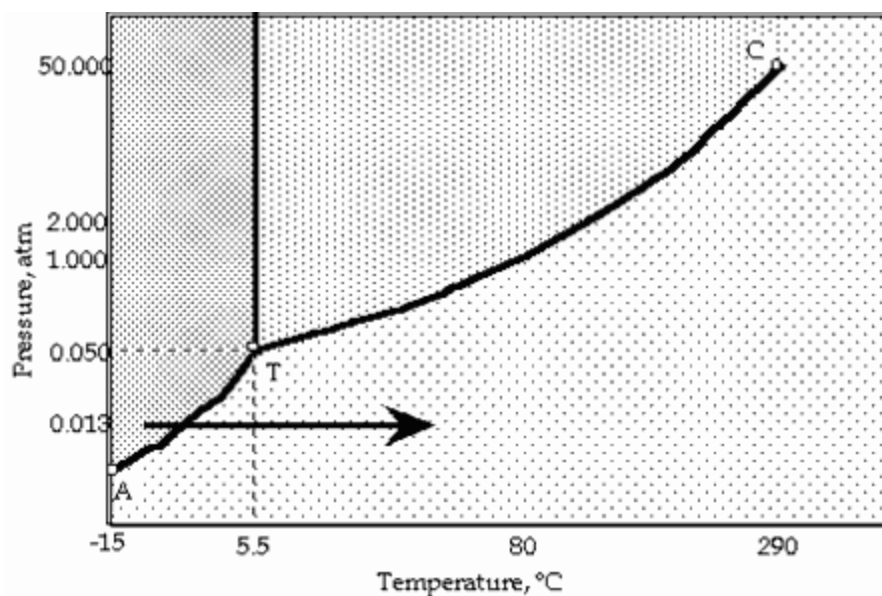
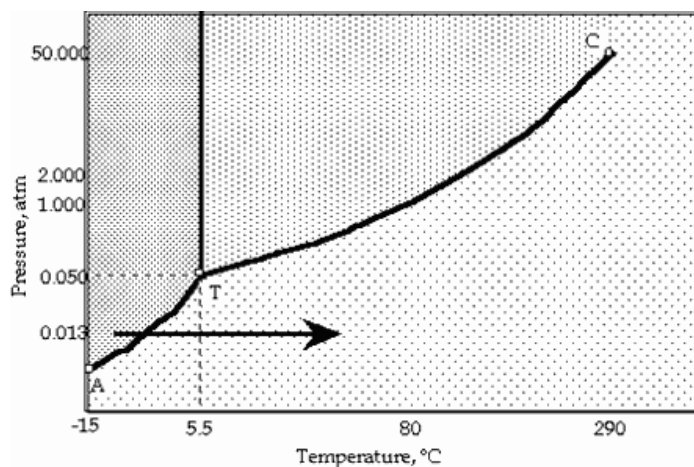


Base your answers to questions 1 and 2 on "this phase diagram.



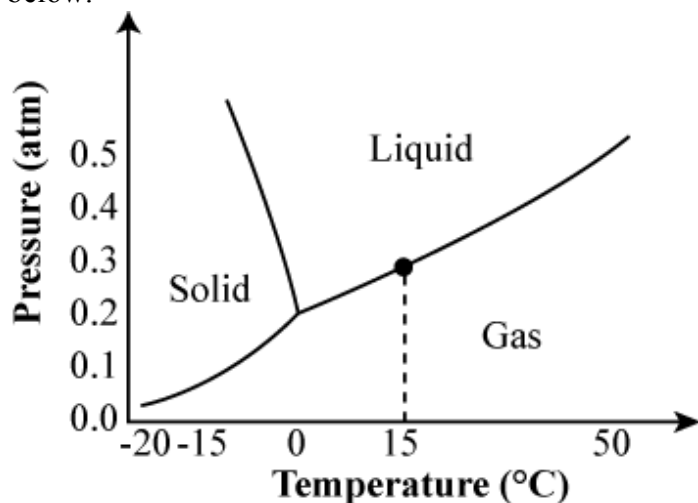
- What is the normal boiling point of the substance on the graph above?
 - 100°C
 - 80°C
 - 290°C
 - 5.5°C
- The critical temperature of this substance is 290°C. What is meant by the term "critical temperature"?
 - It is the temperature at which the substance can no longer exist.
 - It is the temperature above which a substance can no longer be evaporated.
 - It is the temperature above which a substance can no longer be liquified.
 - It is the temperature above which a substance can no longer be solidified.



- The phase diagram for a pure substance is shown above. What is the normal melting point temperature for this substance?
 - 5.5°C
 - 15.0°C
 - 80.0°C
 - 0°C

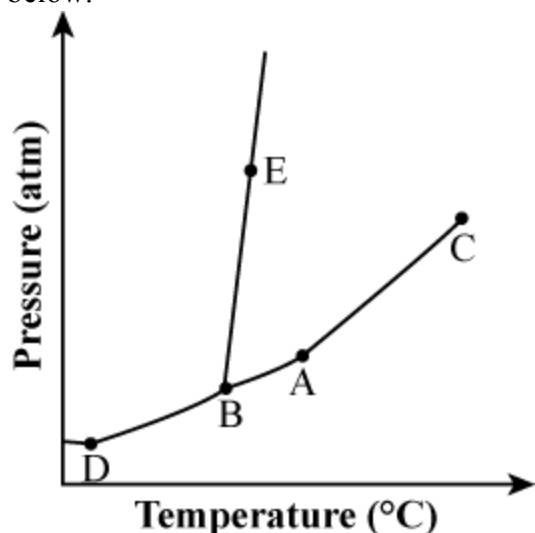
- In the phase diagram of water, graphing pressure versus temperature, why does the equilibrium between the solid and liquid phases curve to the left?
 - The solid phase is more dense than the liquid phase.
 - An increase in pressure causes the liquid to vaporize.
 - The liquid phase is more dense than the solid phase.
 - At higher temperatures, the liquid is more likely to vaporize.

5. The phase diagram of a pure substance is given below.



The temperature of the substance is 15°C. At what pressure would the liquid phase of the substance changes to its vapor state?

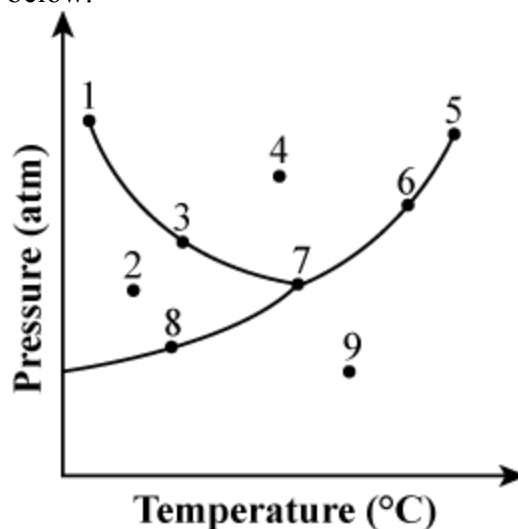
- A) 0.3 atm B) 0.1 atm
C) 0.4 atm D) 0.5 atm
6. The phase diagram of a pure substance is given below.



Which line separates the solid and liquid phases of the substance in the given phase diagram?

- A) BE B) DB C) BA D) AC

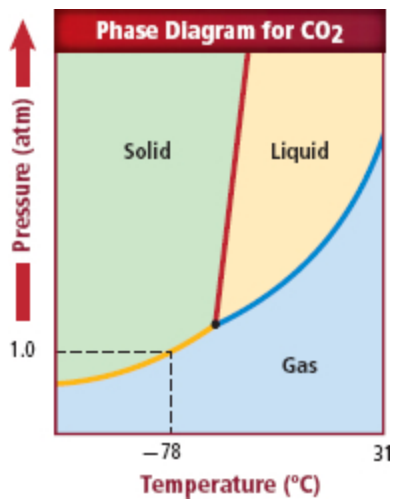
7. The phase diagram of a pure substance is given below.



Which of the following points represents the region where only the liquid phase of the substance exists?

- A) 6 B) 1 C) 9 D) 4
8. What is not something that a phase equilibrium line shows?
- A) The equilibrium point between solid and liquid.
B) The equilibrium point between liquid and solid
C) The equilibrium point between solid and gas.
D) The equilibrium point between gas and vapor.
E) The equilibrium point between liquid and gas.
9. What is the triple point?
- A) The point where the temperature and pressure conditions are right for all three states - solid, liquid and gas - to exist together at equilibrium.
B) The point where the temperature and pressure conditions are right for two of the three states - solid, liquid and gas - to exist together at equilibrium.
C) The point on the graph where equilibration happens.
D) The point on the graph where supercritical fluid is found.
E) The point on the graph where solid and gas are in equilibrium.

10. Dry ice is solid carbon dioxide. What change in temperature or pressure can change dry ice into a liquid?



- A) Increase the temperature or decrease the pressure.
- B) Decrease the temperature or pressure.
- C) Decrease the temperature or increase pressure.
- D) Increase the temperature or increase the pressure.