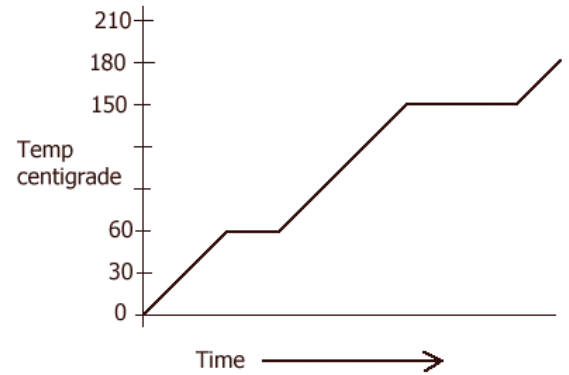


Put all answers on the answer sheet. Use the diagram to answer some questions

- At right is a
A. cooling curve B. heating curve
C. phase diagram D. pop art
- What's the melting point for this substance in °C?
- What's the boiling point for this substance in K?
- What is it's phase at 101°C?



- Using table H, what is the boiling point for ethanol at 150 kPa?
- What is the phase of propanone at 20°C and 30 kPa?
- What is the phase of water at 65°C and 29 kPa?
- What's the normal boiling point of ethanoic acid? Fill in the blank, with a unit.
- Convert 125 kPa to mm of Hg.
- Convert 0.955 atm to kPa.
- What is the vapor pressure inside a closed container of ethanol at 30°C?
- Which of two identical containers is more likely to burst, container #1 which contains 100 mL propanone at 60°C, or container #2 which contains 100 mL ethanol at 60°C?
- Take a little break, be thankful that you are so smart
- When gas particles collide, we assume they lose no energy. These collisions between other particles would be called:
A. compound B. elastic C. energy compliant D. insignificant
- My sister in law Donna can boil water in her home in Boulder at about 95°C because
A. she's a witch B. higher air pressure in Boulder C. lower air pressure in Boulder
(choice A is correct, but you will get NO points if you choose it!)
- When a sealed system has reached the point where the rate of evaporation equals the rate of condensation, it has reached
A. nirvana B. steady C. dynamic equilibrium D. peacefulness
- When the vapor pressure of water is 39.5 kPa and the air pressure on this water is also at 39.5 kPa, the water is at its
A. melting point B. boiling point
C. normal boiling point D. dynamic equilibrium

18. Since ethanoic acid has such a high vapor pressure at standard pressure as compared to the other three liquids on table H, it could be stated that
- ethanoic acid has relatively low intermolecular attractions
 - ethanoic acid has relatively high intermolecular attractions
 - the other three liquids have higher boiling points than ethanoic acid
 - ethanoic acid has the lowest freezing point of all four liquids
19. Rubbing alcohol evaporates much faster than water,
- rubbing alcohol has a lower vapor pressure than water
 - water has a lower vapor pressure than rubbing alcohol
 - rubbing alcohol has a higher boiling point than water
 - water and rubbing alcohol cannot form an aqueous solution if mixed
20. On a heating curve, the phase change from liquid to gas is a LONGER line than the phase change from solid to liquid. This is because
- a watched pot never boils
 - the freezing point is lower than the boiling point
 - it takes more energy to boil than to melt
 - it takes more energy to melt than to boil
21. During a phase change from liquid to solid, what is true?
- kinetic energy decreases, potential energy is steady
 - potential energy decreases, kinetic energy is steady
 - both potential and kinetic energy decrease
 - both potential and kinetic energy increase
22. At the triple point
- all three phases can exist at the same time for a substance
 - no phases can exist at this temperature & pressure combination
 - sublimation, deposition and condensation cannot occur
 - melting, freezing, and solidification all occur at once
23. The phase changes of any substance on a phase diagram are parallel to the lower X axis because
- it looks neater that way
 - the phase changes occur at one temperature
 - because kinetic energy is changing
 - because they represent temperature changes only
24. On table H at 40 kPa and 65°C, which is true?
- all four substances are liquid
 - all four substances are gases
 - water and ethanoic acid are liquids, propanone and ethanol are gases
 - water and ethanoic acid are gases, propanone and ethanol are gases
25. During a phase change from liquid to gas, which is true?
- PE increases, KE increases, TEMP increases
 - PE increases, KE decreases, TEMP steady
 - PE decreases, KE steady, TEMP steady
 - PE increases, KE steady, TEMP steady

1	B
2	60°C
3	423 K
4	LIQ
5	90°C
6	LIQ
7	LIQ
8	~118°C
9	938 mm Hg
10	96.7 kPa
11	10 kPa
12	#1 BURSTS
13	☺
14	B
15	C
16	C
17	B
18	B
19	B
20	C
21	B
22	A
23	B
24	C
25	D

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3	423 K
4	LIQ
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17	B
18	B
19	B
20	C
21	B
22	A
23	B
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13	☺
14	B
15	C
16	C
17	B
18	B
19	B
20	C
21	B
22	A
23	B
24	C
25	D