NORTHWEST TERRITORIES CHEMISTRY 11 (MCH--11) · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Which molecule is polar**

- A CO_2
- B CH_4
- C N_2
- D H_2O

Understand It with Pulse | Flag a mistake

2 **The molar mass of water, H_2O, is**

- A 16 g
- B 18 g
- C 20 g
- D 34 g

Understand It with Pulse | Flag a mistake

3 **In the balanced equation $2H_2+O_2 \rightarrow 2H_2O$, the sum of all coefficients is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A solution contains 2 moles of solute in 0.5 litre of solution. Its concentration, in moles per litre, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **An atom loses two electrons to form an ion. The charge on the ion is**

A 2-

B 2+

C 0

D 1-

Understand It with Pulse | Flag a mistake

6 **Carbon dioxide has molar mass 44 g per mole. The mass of 3 moles of carbon dioxide, in grams, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Which aluminium chloride equation is balanced**

A $2Al + 3Cl_2 \rightarrow 2AlCl_3$

B $Al + Cl_2 \rightarrow AlCl_3$

C $2Al + Cl_2 \rightarrow 2AlCl_3$

D $Al + 3Cl_2 \rightarrow AlCl_3$

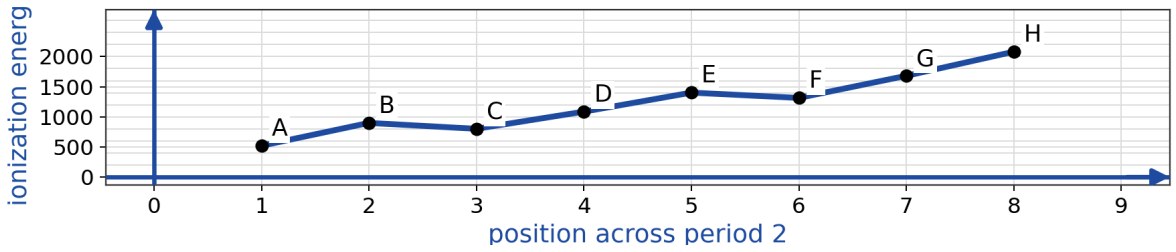
Understand It with Pulse | Flag a mistake

8 **To make 500 mL of a 0.2 mole per litre solution from a 2 mole per litre stock solution, the volume of stock needed, in mL, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **The graph shows first ionization energy across period 2, from lithium at A to neon at H. The element with the highest value is at point**



- **A** A
- **B** C
- **C** F
- **D** H

Understand It with Pulse | Flag a mistake

10 **Sodium chloride has molar mass 58.5 g per mole. The mass of 2 moles of sodium chloride, in grams, is _____**

ANSWER _____

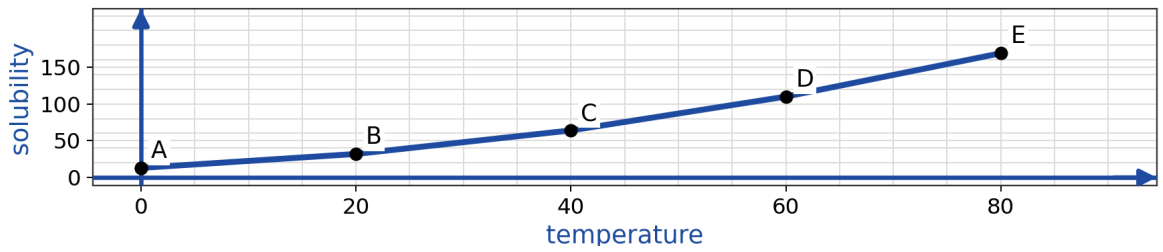
Understand It with Pulse | Flag a mistake

11 **When zinc reacts with hydrochloric acid to form zinc chloride and hydrogen, the reaction type is**

- **A** double replacement
- **B** synthesis
- **C** single replacement
- **D** decomposition

Understand It with Pulse | Flag a mistake

12 **The graph shows the solubility of potassium nitrate in water at different temperatures. The solubility at 60 degrees, in the graph units, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

13 **Sulfur is in group 16. The number of valence electrons it has is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **One mole of oxygen molecules, O_2, contains this many moles of oxygen atoms**

A 1

B 2

C 3

D 4

Understand It with Pulse | Flag a mistake

15 **In a closed container, 10 g of reactant A reacts with 15 g of reactant B to form one product. The mass of product, in grams, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **Methane is a hydrocarbon with formula**

A CH_4

B C_2H_6

C CH_3OH

D CO_2

Understand It with Pulse | Flag a mistake

17 **Magnesium forms Mg^{2+} and oxygen forms O^{2-}. The formula of the compound formed is**

A MgO_2

B Mg_2O

C MgO

D Mg_2O_2

Understand It with Pulse | Flag a mistake

18 **In water, H_2O, the percent by mass of hydrogen is about**

A 5.6

B 11.1

C 22.2

D 88.9

Understand It with Pulse | Flag a mistake

19 **$2H_2 + O_2 \rightarrow 2H_2O$.**
With 10 moles of hydrogen and 3 moles of oxygen, the amount of water formed, in moles, is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **An organic compound containing the hydroxyl group, OH, is an**

- A alkane
- B alkene
- C alcohol
- D alkyne

Understand It with Pulse | Flag a mistake

21 **In a water molecule, the oxygen atom has this many lone pairs of electrons**

- A 0
- B 1
- C 2
- D 3

Understand It with Pulse | Flag a mistake

22 **A compound has empirical formula CH_2O and molar mass 180 g per mole. Its molecular formula is**

A $C_6H_{12}O_6$

B $C_3H_6O_3$

C $C_2H_4O_2$

D CH_2O

Understand It with Pulse | Flag a mistake

23 **A reaction has a theoretical yield of 20 g and an actual yield of 17 g. The percent yield is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A three carbon alkane is named**

A propane

B propene

C butane

D pentane

Understand It with Pulse | Flag a mistake

25 **Water has a central oxygen atom bonded to two hydrogen atoms and two lone pairs. The shape of the molecule is**

A linear

B trigonal planar

C tetrahedral

D bent

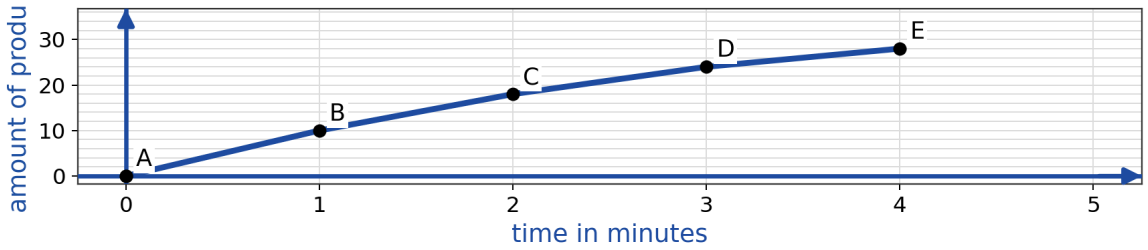
Understand It with Pulse | Flag a mistake

26 **The molar mass of ammonia, NH_3, is 17 g per mole. The mass of 4 moles of ammonia, in grams, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **The graph shows the amount of product formed during a reaction. The amount at 3 minutes, in the graph units, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

28 **When diluting a concentrated acid, the safe practice is**

A to add water to acid quickly

B to add acid to water, slowly and with stirring

C to pour acid down the sink

D to heat the acid first

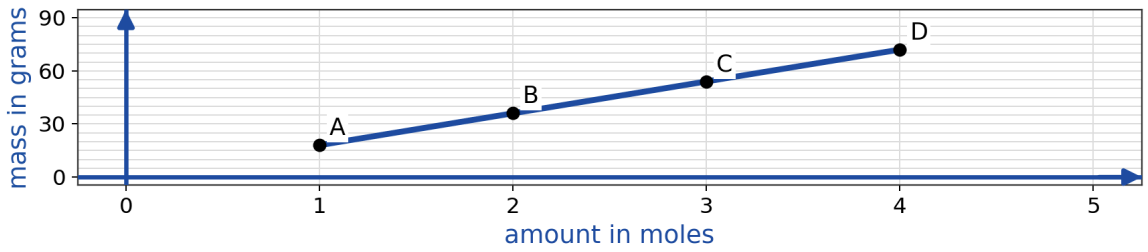
Understand It with Pulse | Flag a mistake

29 **A sodium atom has one valence electron. In its Lewis symbol, the number of dots shown is**

- **A** 2
- **B** 8
- **C** 11
- **D** 1

Understand It with Pulse | Flag a mistake

30 **The graph shows mass against amount for water. The mass at 3 moles, in grams, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

31 **Which equation is a balanced synthesis reaction**

- **A** $N_2 + 3H_2 \rightarrow 2NH_3$
- **B** $N_2 + H_2 \rightarrow 2NH_3$
- **C** $N_2 + 3H_2 \rightarrow NH_3$
- **D** $2N_2 + 3H_2 \rightarrow 2NH_3$

Understand It with Pulse | Flag a mistake

32 **A solution contains 3 moles of solute in 1.5 litres of solution. Its concentration, in moles per litre, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **Boron trifluoride has a central boron atom bonded to three fluorine atoms and no lone pairs. The shape of the molecule is**

A bent

B tetrahedral

C linear

D trigonal planar

Understand It with Pulse | Flag a mistake

34 **Methane has molar mass 16 g per mole. The amount in 32 g of methane, in moles, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **When hydrogen peroxide breaks down into water and oxygen, the reaction type is**

A synthesis

B combustion

C decomposition

D double replacement

Understand It with Pulse | Flag a mistake

36 **To make 250 mL of a 0.4 mole per litre solution from a 2 mole per litre stock solution, the volume of stock needed, in mL, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

37 **Which substance is a covalent compound**

- A CO_2
- B NaCl
- C MgO
- D $CaCl_2$

Understand It with Pulse | Flag a mistake

38 **In magnesium oxide, MgO, the percent by mass of magnesium is**

- A 40.0
- B 60.0
- C 50.0
- D 33.3

Understand It with Pulse | Flag a mistake

39 $N_2 + 3H_2 \rightarrow 2NH_3$.

The amount of ammonia formed from 6 moles of hydrogen, in moles, is _____

ANSWER

Understand It with Pulse | Flag a mistake

40 **Ethane is a hydrocarbon with formula**

A C_2H_4

B C_3H_8

C C_2H_2

D C_2H_6

Understand It with Pulse | Flag a mistake

41 **Beryllium chloride has a central beryllium atom bonded to two chlorine atoms and no lone pairs. The shape of the molecule is**

- A bent
- B linear
- C tetrahedral
- D trigonal pyramidal

Understand It with Pulse | Flag a mistake

42 **A compound has empirical formula CH_2 and molar mass 56 g per mole. Its molecular formula is**

- A C_2H_4
- B C_3H_6
- C C_4H_8
- D C_5H_{10}

Understand It with Pulse | Flag a mistake

43 **A reaction has a theoretical yield of 40 g and an actual yield of 38 g. The percent yield is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

44 **An organic compound containing a carbonyl group in the middle of the chain is a**

A alcohol

B ketone

C alkane

D carboxylic acid

Understand It with Pulse | Flag a mistake

45 **Which liquid has the highest boiling point, because its molecules form strong hydrogen bonds**

- **A** H_2O
- **B** H_2S
- **C** CH_4
- **D** CO_2

Understand It with Pulse | Flag a mistake

46 **Hydrogen peroxide has molar mass 34 g per mole. The amount in 17 g of hydrogen peroxide, in moles, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

47 **In a combustion reaction, a hydrocarbon reacts with oxygen to form**

A carbon dioxide and water

B carbon monoxide only

C hydrogen gas and oxygen

D a salt and water

Understand It with Pulse | Flag a mistake

48 **Hot glass looks the same as cold glass, so you should**

A grab it quickly

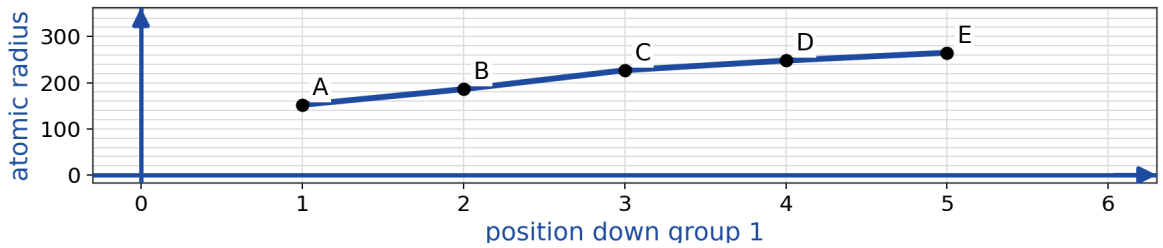
B check before picking it up

C cool it with your hand

D leave it on the bench forever

Understand It with Pulse | Flag a mistake

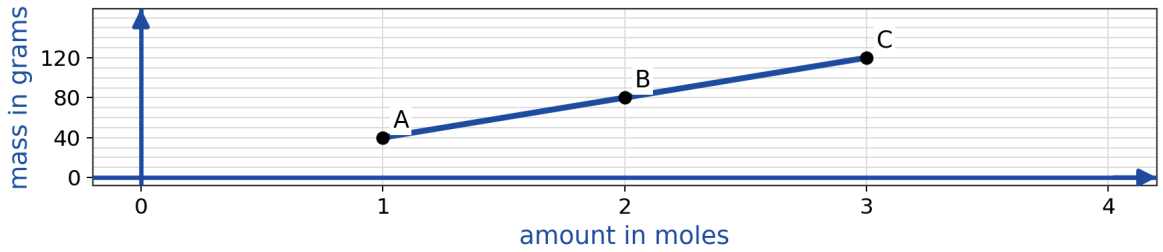
49 **The graph shows atomic radius down group 1, from lithium at A to caesium at E. The radius at point C, in the graph units, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

50 **The graph shows mass against amount for magnesium oxide. The mass at 2 moles, in grams, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. B
3. 5
4. 4
5. B
6. 132
7. A
8. 50
9. D
10. 117
11. C
12. 110
13. 6
14. B
15. 25
16. A
17. C
18. B
19. 6
20. C
21. C
22. A
23. 85
24. A
25. D
26. 68
27. 24
28. B
29. D
30. 54
31. A
32. 2
33. D
34. 2
35. C
36. 50
37. A
38. B
39. 4
40. D
41. B
42. C
43. 95
44. B
45. A
46. 0.5
47. A
48. B
49. 227
50. 80

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