

Name: Key

Chapter 20, 25 Quiz Review

Period:

1. How were elements formed?

- a. Fusion
- b. Fission
- c. A chemical reaction
- d. They always existed

Fusion - Small pieces combine to larger
Fission - large pieces break into smaller

2. The oxidation number of Phosphorus in P_2O_5 is...

- a. +5
- b. -5
- c. +10
- d. -2

$\times 5 = 10$

Oxygen always -2
Compounds add to 0

3. Consider the following reaction: $2Ca(s) + O_2(g) \rightarrow 2CaO(s)$. Which of the following statements is true?

- a. The calcium atom is losing electrons; therefore, it is oxidized.
- b. The oxygen atom is losing electrons; therefore, it is reduced.
- c. The calcium atom is gaining electrons; therefore, it is oxidized.
- d. The oxygen atom is gaining electrons; therefore, it is oxidized.

LEO

GER

4. In the reaction $N_2(g) + 3H_2(g) \rightarrow 2NH_3(g)$, nitrogen is _____.

- a. oxidized
- b. reduced
- c. synthesized
- d. electrolyzed

5. What are the most abundant elements in the universe? What are their relative percentages?

Hydrogen 75%

Helium 25%

Use the electrochemical cell to answer the next questions.

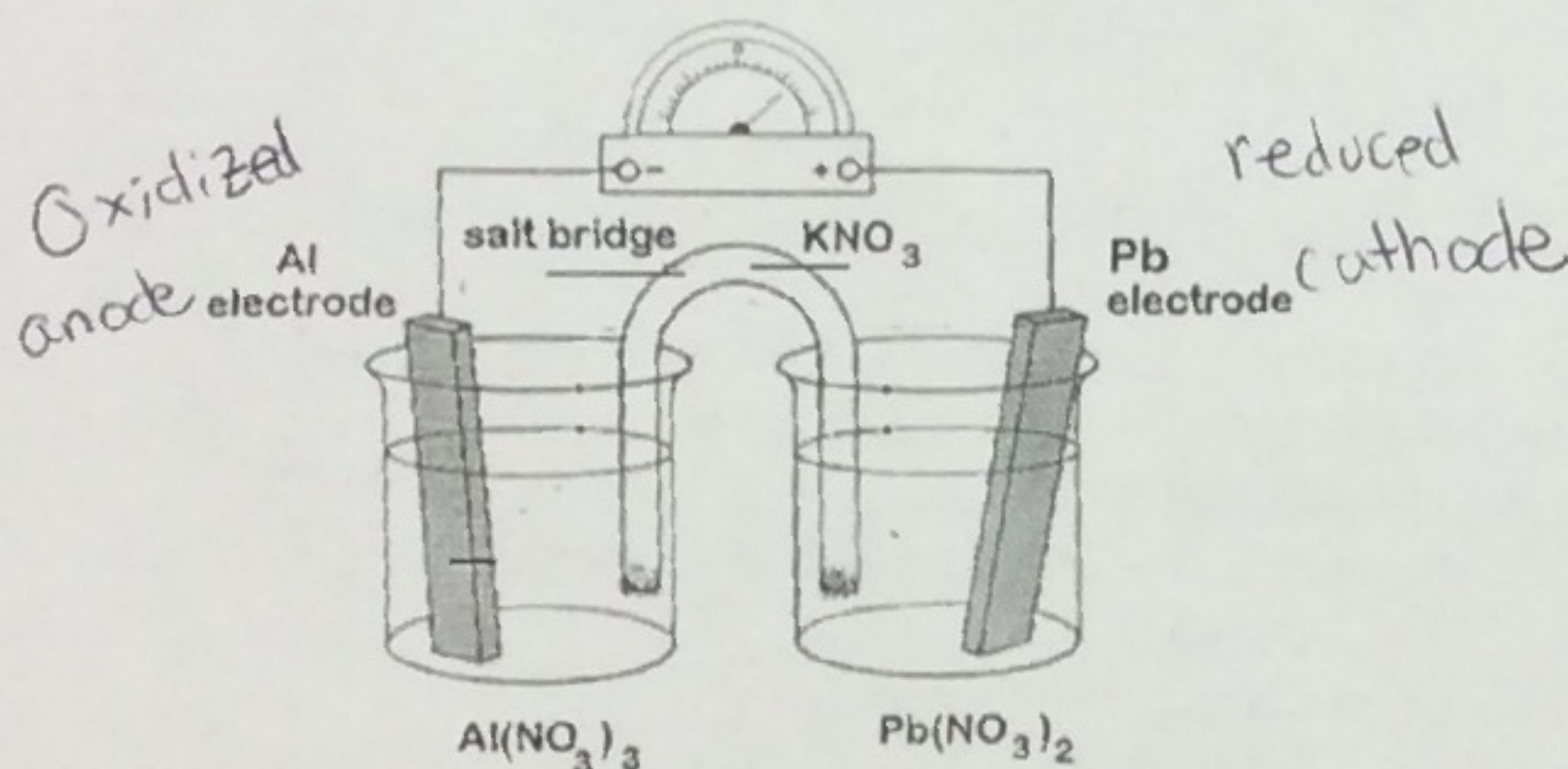
6. What metal is oxidized? *Al, higher on reactivity series*

7. What metal is reduced? *Pb*

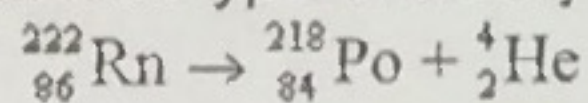
8. What direction do electrons flow? - *from anode to cathode*

- a. Towards Pb
- b. Towards Al
- c. Both directions
- d. No flow of electrons

9. Label the anode and cathode on the diagram.



10. What type of decay is taking place in this reaction?



- beta

- gamma

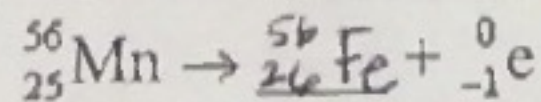
-alpha

11. If the half-life of sodium-24 is 15 hours, how much remains from a 10.0-g sample after 60 hours? (Show work!) *10 — 5 — 2.5 — 1.25 — 0.625g Na-24*
15 30 45 60

12. A process in which a very heavy nucleus splits into more-stable nuclei of smaller mass is called:

Fission

13. Identify the missing particle in the following nuclear reaction:



both sides equal.

$$56 = 56 + 0$$

$$25 = 26 + -1$$