

# Review Packet Answer Key

## Atomic Structure (Topic 1 in your review book)

- |       |       |
|-------|-------|
| 1. 3  | 11. 2 |
| 2. 1  | 12. 2 |
| 3. 1  | 13. 1 |
| 4. 2  | 14. 2 |
| 5. 4  | 15. 1 |
| 6. 2  | 16. 2 |
| 7. 4  | 17. 3 |
| 8. 3  | 18. 2 |
| 9. 3  | 19. 1 |
| 10. 4 |       |

20. Si-29 contains 15 neutrons

21. Atomic Mass calculation set up:

$$\begin{aligned} & (27.98 \text{ amu}) \times 0.9222 \\ & (28.98 \text{ amu}) \times 0.0469 \\ + & \underline{(29.97 \text{ amu}) \times 0.0309} \end{aligned}$$

22. Percent error =  $(3.29 - 3.09) / 3.09 \times 100\% = 6.47\%$

23. Silicon in the ground state is 2-8-4, so in the excited state, there still need to be 14 electrons shown, with one electron shown at a higher than normal level. Examples include: 2-7-5, 2-8-3-1

24. One piece of info shown by the electron – shell diagram that is not shown on a Lewis dot diagram is that there is info shown about the non-valence electrons. Another piece of info shown is that about the number of protons and neutrons in the nucleus.

25. The magnesium atom has a mass number of 23.

26. For showing bonding, Lewis diagrams are generally more suitable because bonding only involves valence electrons, and this is what is shown on Lewis diagrams.



