Use the VSEPR theory to predict the shapes of the following. 1. Draw Lewis dot structures for each case. 2. Describe the shape about each underlined central atom in terms of an expression of the form AX_nE_m and in words (e.g., "linear"). Some structures have more than one indicated central atom. 3. Sketch the shape of each molecule or ion.

15. $\underline{C}OF_2$

16. $\underline{C}F_4$

17. $\underline{P}Br_3$

18. $\underline{C}OS$

19. $\underline{S}O_2$

20. $\underline{Se}Br_2$

21. $\underline{C}H_3\text{-}\underline{C}O\text{-}CH_3$ (C-C-C sequence; give shape for two centers)

22. $\underline{C}H_3\text{-}\underline{S}H$ (give shape for two centers)

23. $Cl\underline{C}H_2\text{-}\underline{C}N$ (C-C sequence; give shape for two centers)

24. $\underline{As}H_4^+$

25. $\underline{Cl}O_2^-$

26. O-$\underline{P}$-$\underline{O}$-P-O (i.e., P_2O_3; give shape for two centers)