

CHE 213 Review & Preparatory Assignment Answers

1c

2b, recall B only want 6 pairs, carbonate has 24 valence electrons

3c

4a

5a

6c

7a

8. London dispersion force – it is a nonpolar molecule

9. Dipole force – it is a polar molecule

10. Dipole force - it is a polar molecule

11. London dispersion force – it is a nonpolar molecule due to its symmetry (trigonal planar)

12. London dispersion force – it is a nonpolar molecule due to its symmetry (linear)

13. hydrogen bond (note this is not a true bond, it is a very special case of a dipole force)

14. HF due to hydrogen bonding

15. NO, dipole force > dispersion force for comparably sized molecules

16. H₂Se, dispersion forces increase as size increases

17. 0.523

18. 13.00

19. 5.6×10^{-4} M

20. 3.0×10^{-8}

21. 3.17

22. acetic < benzoic < cyanic < nitric (The larger K_a, the stronger the acid; nitric is a strong acid.)

Lab Skills

23. 0.0874 mole

24. 0.308 mole

25. 2.9×10^2 g

26. 15 g

27. 31.4 g CO₂

28. O₂ is limiting; 9.17 g CO₂

29. 88.4%

30. 427 mL

31. 0.075 kg

32. 451 μL

33. 0.094 kg

34. 2.356

35. 2.354

36. 0.0006570

37. 213.2

38. 3.218×10^3

39. 1.234×10^7

40. 4

41. 4

42. 8

43. 3

44. ambiguous, could be 2,3, or 4

45. 6

46. 5

47 – 58, Recall there is one rule for addition & subtraction, & a different rule for multiplication & division.

47. 0.89

48. 117

49. 1.5×10^3

50. 4.30

51. 1.97×10^{-3}

52. 123

53. 87.6

54. -91

55. 108.8

56. 51

57. 8.4

58. 2.05