

Answers to Section Review pages 522-523

30. 1.74×10^{-5}

31. a. $K_{eq} = \frac{[\text{Mn}^{2+}][\text{Cl}_2]}{[\text{H}_3\text{O}^+]^4[\text{Cl}^-]^2}$

b. $K_{eq} = [\text{H}_3\text{AsO}_4]^4$

32. 1.57

33. a. 0.67

b. 0.52

c. 311

34. 1.4×10^{10}

35. 0.048 mol/L

36. 0.0106 mol/L

37. 0.046 mol/L

38. 110 M

39. 2.9×10^{-26}

40. 2.5×10^{-48}

41. 8.22×10^{-96}

42. 7.14×10^{-11}

43. 1.7×10^{-14}

1.3×10^{-7}

2.7×10^{-7}

1.6×10^{-4}

44. For these salts, the concentration s of a saturated solution (in moles per liter) is related to the solubility product constant by $K_{sp} = 4s^3$, so that cube roots (difficult on some calculators) are needed to find s .

45. 4.0×10^{-5} M

46. 7.3×10^{-7} M