SOLUCIONES

1. a) $V_{5,3} = 60$ b) $C_{5,3} = 10$

2. $6 \cdot 10 = 60$

3. $C_{15,2} = 105$

4. $C_{6,3} = 20$

5. $C_{5,4} = 5$

6. $C_{22,11} = 705.432$

7. a) $P_5 = 120$ b) $2P_3 = 12$

8. $C_{6,3} = 20$

9. a) $C_{5,2} = 10$ b) $C_{4,1} = 4$ c) $V_{5,2} = 20$

10. $VR_{6,4} = 1296$

11. $V_{10,3} = 720$

12. $VR_{2,1} + VR_{2,2} + VR_{2,3} + VR_{2,4} = 30$

13. $V_{10,4} = 4320$

14. $C_{40,2} \cdot C_{20,2} = 970$

15. $VR_{10,5} = 177100000$

16. $VR_{3,6} = 729$

17. $C_{x,2} = 21 \Rightarrow x = 7$

18. $C_{x,2} = 105 \Rightarrow x = 15$

19. $C_{10,3} = 120$

20. $V_{6,3} = 120$

21. a) $VR_{4,3} = 64$ b) $V_{4,3} = 24$ c) $P_4 = 24$ d) $V_{3,2} = 6$

22. $VR_{3,15} = 14.348.907$

23. $C_{49,6} = 13.938.816$

24. a) $x = 5$ b) $x = 4$ c) $x = 5$ d) $x = 5$ e) $x = 5$ f) $x = 8$

25. $V_{10,2} = 90$

26. $C_{6,3} = 20$

27. $P_5 = 120$

28. a) $P_8 = 40.320$ b) $V_{3,2} \cdot P_6 = 4.320$

29. $V_{10,3} = 720$

30. $C_{6,2} \cdot C_{3,2} = 45$

31. $VR_{20,3} = 8.000$

32. $C_{9,4} = 126$

33. $PR_{16}^{2,2,2,8} = 64.864.800$

34. a) $C_{10,2} = 45$ b) $V_{10,3} = 720$

35. a) $V_{4,3} = 24$ b) $VR_{4,3} = 64$

36. $V_{12,3} = 1320$

37. a) $V_{10,3} = 720$ b) $V_{9,2} = 72$

38. a) $V_{6,5} = 720$ b) $P_6 = 720$ c) $P_5 = 120$

39. a) $9 \cdot 9 \cdot 8 = 648$ b) $9 \cdot 10 \cdot 10 = 900$

40. $V_{4,2} = 12$

41. a) $V_{4,3} = 24$ b) 2 c) $2 \cdot V_{3,2} = 12$

42. a) $VR_{3,9} = 19.683$ b) $C_{14,9} \cdot VR_{2,5} = 64.064$ c) $PR_{14}^{8,4,2} = 45.045$

43. $V_{30,3} = 24.360$

44. $VR_{26,3} \cdot VR_{10,4} = 175760000$

45. $C_{10,2} = 45$

46. $C_{5,1} + C_{5,2} + C_{5,3} + C_{5,4} + C_{5,5} = 31 \Rightarrow NO$

47. a) $P_7 = 5.040$ b) $P_6 = 720$ c) $P_4 = 24$

48. a) $C_{5,2} \cdot C_{7,3} = 350$ b) $C_{5,2} \cdot C_{6,2} = 150$ c) $C_{5,2} \cdot C_{5,3} = 100$

49. $P_5 = 120$

50. $P_4 = 24$

51. a) $C_{10,5} = 252$ b) $C_{8,5} + C_{8,3} = 112$ c) $C_{8,5} + 2C_{8,4} = 196$

52. $2P_8 = 80640$

53. $PR_{12}^{3,3,4,2} = 277.200$

54. a) $C_{15,3} = 455$ b) $C_{5,3} = 10$ c) $455 - 10 = 445$

55. $PR_{11}^{2,2,3} = 1.663.200$

56. $P_5 = 120$

57. $P_3 \cdot P_2 = 12$

58. a) $P_6 = 720$ b) $2 \cdot P_5 = 240$ c) $PR_6^2 = 360$ d) $P_4 = 24$

59. $C_{10,4} = 210$

60. $C_{40,5} = 658.008$

61. a) $P_6 = 720$ b) $4P_3 \cdot P_3 = 144$ c) $2P_4 = 48$ d) $PR_6^3 = 120$

62. $C_{7,3} = 35$

63. $40 \cdot 35 \cdot 32 \cdot 28 = 1.254.400$

64. $C_{15,2} = 105$

65. $C_{12,8} = 495$

66. $VR_{3,6} = 729$

67. $2 \cdot P_3 \cdot P_3 = 72$

68. a) $VR_{5,3} = 125$ b) $VR_{5,3} + VR_{5,2} + VR_{5,1} = 155$