Answer Key

1. $P(3,3) = 6$

2. $P(10,10) = 3628800$

3a. $C(20,4) = 4,845$

3b. $C(7,2) \cdot C(13,2) = 1,638$

3c. Two IT students, two CS students: $C(7,2) \cdot C(13,2) = 1,638$
Three IT students, one CS student: $C(7,3) \cdot C(13,1) = 455$
Four IT students, zero CS students: $C(7,4) = 35$
Result: $1638 + 455 + 35 = 2128$

4a. There are 47 good floppies

4b. There are 3 bad floppies

4c. $C(50,5) = 2,118,760$

4d. $C(47,5) = 1,533,939$

4e. $C(3,3) \cdot C(47,2) = 1,081$

4f. $C(3,1) \cdot C(47,4) + C(3,2) \cdot C(47,3) + C(3,3) \cdot C(47,2) = 584,821$

4g. $C(50,5) - C(3,0) \cdot C(47,5) = 584,821$

5a. There are 16 total games.

5b. $C(16,4) = 1,820$

5c. $C(5,4) + C(8,4) = 75$

5d. $C(5,2) \cdot C(3,2) + C(5,2) \cdot C(8,2) + C(3,2) \cdot C(8,2) = 394$