

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