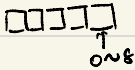


Problem 2

1. P (no student answer more than one)

$$= \frac{15!}{5!} = 32432400$$

2.



0 ~ 99 exist such Int
of odd.

$$100 \sim 999 \quad \begin{matrix} \square & \square & \square \\ \uparrow \\ \text{one} \end{matrix} \quad P = \frac{4}{10} \times \frac{5}{10} \times \frac{5}{10} = \frac{1}{10}$$

$$1000 \sim 9999 \quad \begin{matrix} \square & \square & \square & \square \\ \uparrow \\ \text{one} \end{matrix} \quad P = \frac{4}{10} \times \frac{5}{10} \times \frac{5}{10} \times \frac{7}{10} = \frac{700}{10000} = \frac{7}{100}$$

$$10000 \sim 99999 \quad \begin{matrix} \square & \square & \square & \square & \square \\ \uparrow \\ \text{one} \end{matrix} \quad P = \frac{4}{10} \times \frac{5}{10} \times \frac{5}{10} \times \frac{7}{10} \times \frac{6}{10} = \frac{4200}{100000} = \frac{42}{10000} = 0.0042$$

$$0.1 + 0.07 + 0.0042 = 0.212$$

$$(0.0212)^5 \times 5C5 \times (1 - 0.212)^3 = 1.34 \times 10^{-6}$$

3.

$$P(A \cap B) = \frac{3}{5} \times \frac{1}{6} \times \frac{1}{6}$$

$$= \frac{3}{216} = \frac{1}{72}$$

$$P(A) = \frac{3}{6} \times \frac{3}{6} \times 1 = \frac{9}{36} = \frac{1}{4} \quad P(B) = \frac{1}{6} \times \frac{1}{6} = \frac{1}{36}$$

$$P(A)P(B) = \frac{1}{144}$$

$$P(A \cap B) \neq P(A)P(B)$$

\therefore Not independent.

4.

$$4C1 = 4 \quad 12C5 = \frac{12!}{5!6!} = 1257$$

$$4 \times 1257 = 5148$$

5.

A = Team won

B = Super. Gen. played

$$P(A \cap B) = 70\%$$

$$P(A \cap B) = 50\%$$

$$P(A|B) = 75\%$$

$$P(B) = \frac{(70\%)^5}{(75\%)^5} = 0.71$$