SIMPLE Xi story 빠른 정답 찾기

Ⅰ 경우의 수

A 원순열

01 n, n, $(n-1)!$ 02 원순열의 수, 순열의 수
03 4, 5, 3, 3, 20 04 ○ 05 × 06 × 07 2
08 6 09 24 10 6 11 90 12 12 13 2
14 240 15 6 16 12 17 ② 18 ④ 19 ③
20 ① 21 ③ 22 ④ 23 ④ 24 ② 25 ③
26 ② 27 ④ 28 ③ 29 45 30 13 31 ①
32 ② 33 ③ 34 ③ 35 ② 36 ⑤ 37 ③
38 ① 39 ② 40 ③ 41 ④ 42 ⑤

B 중복순열과 같은 것이 있는 순열

01 중복순열, ${}_n\Pi_r$ 02 n, r, n^r
03 2, 4, 2, 4, 16 04 5, 3, 2, 10
05 × 06 ○ 07 ○ 08 ○ 09 243 10 125
11 1 12 6 13 27 14 18 15 81 16 3
17 4 18 60 19 6 20 10 21 30 22 9
23 ④ 24 ③ 25 ① 26 ② 27 ④ 28 ②
29 ③ 30 ② 31 ③ 32 ③ 33 ③ 34 ①
35 ② 36 ① 37 ③ 38 ③ 39 ③ 40 ①
41 ④ 42 ② 43 ② 44 ① 45 ② 46 ①
47 ① 48 180 49 ③ 50 30 51 ④ 52 ①
53 ④ 54 60

연습 [A-B]

01 ④ 02 ④ 03 ④ 04 12 05 ② 06 ②
07 ⑤ 08 ② 09 ④ 10 ④ 11 340 12 ③
13 ⑤ 14 ① 15 ② 16 630

C 중복조합

01 중복조합, ${}_n\mathrm{H}_r$ 02 n, r, $n+r-1$, r
03 3, n, $2+n$, n 04 ${}_n\mathrm{H}_m$ 05 ○
06 × 07 × 08 ○ 09 4 10 6 11 1
12 35 13 6 14 10 15 15 16 5 17 4
18 15 19 6 20 3 21 6 22 ③ 23 5
24 ② 25 ② 26 ④ 27 ③ 28 ② 29 ④
30 ② 31 ⑤ 32 ④ 33 ⑤ 34 ③ 35 ③
36 210

D 이항정리

01 ${}_3\mathrm{C}_1$, 2, 3, 3, 3, 2, 3
02 ${}_3\mathrm{C}_1$, 2, ${}_3\mathrm{C}_3$, 3, 3, 2, 3, 3
03 2, 3, 1, 4, 6, 4, $a^4+4a^3b+6a^2b^2+4ab^3+b^4$
04 × 05 ○ 06 ○ 07 ○ 08 $a^2+2ab+b^2$
09 $8a^3+12a^2b+6ab^2+b^3$
10 $x^4-4x^3y+6x^2y^2-4xy^3+y^4$
11 $81x^4-108x^3y+54x^2y^2-12xy^3+y^4$
12 $x^2+2+\frac{1}{x^2}$ 13 $x^3-3x+\frac{3}{x}-\frac{1}{x^3}$
14 $16x^4+32x^2+24+\frac{8}{x^2}+\frac{1}{x^4}$
15 $x^4-\frac{4x^2}{3}+\frac{2}{3}-\frac{4}{27x^2}+\frac{1}{81x^4}$
16 10 17 135 18 216 19 ${}_6\mathrm{C}_4$ 20 ${}_6\mathrm{C}_2$ 21 8
22 15 23 0 24 32 25 ② 26 ⑤ 27 ④
28 ② 29 ③ 30 ② 31 ② 32 ④ 33 ③
34 ② 35 ④ 36 ⑤ 37 ④ 38 ④

연습 [C-D]

01 126 02 ③ 03 ③ 04 ② 05 ④ 06 12
07 ② 08 ② 09 ② 10 ③ 11 ③ 12 ②
13 ① 14 ⑤ 15 ③ 16 9

Ⅰ 대단원 TEST [A-D]

01 ② 02 ④ 03 ② 04 ② 05 ⑤ 06 ③
07 ③ 08 ③ 09 ③ 10 ③ 11 ④ 12 136
13 ② 14 ② 15 6 16 ③ 17 ⑤ 18 ②
19 ② 20 ④ 21 ② 22 ③ 23 36 24 ②
25 ④ 26 ⑤ 27 ② 28 102 29 ⑤ 30 ④
31 30 32 84

Ⅱ 확률

E 확률의 뜻과 활용

01 시행 02 합사건, $A \cup B$
03 곱사건, $A \cap B$ 04 여사건, A^C
05 × 06 ○ 07 × 08 ○
09 $\{1, 2, 3, 4, 5, 6\}$
10 $\{1, 3, 5\}$ 11 $\{2, 4, 6\}$
12 $\{1, 2, 4, 5, 6, 8, 10\}$ 13 $\{2, 10\}$
14 $A \cap B = \{2, 3\}$, 배반사건이 아니다.
15 $\{4, 5\}$ 16 $\{1, 4, 6\}$ 17 $\frac{2}{3}$ 18 $\frac{2}{3}$
19 $\frac{1}{3}$ 20 $\frac{1}{4}$ 21 $\frac{1}{2}$ 22 $\frac{7}{15}$ 23 $\frac{23}{30}$ 24 ④
25 ② 26 ⑤ 27 ③ 28 ② 29 ④ 30 ④
31 ① 32 ② 33 ⑤ 34 ② 35 $\frac{3}{10}$ 36 ①
37 ④ 38 ① 39 $\frac{1}{4}$ 40 ④ 41 ② 42 ③
43 ④ 44 ② 45 ④ 46 ① 47 ⑤ 48 ⑤
49 4 50 ② 51 ⑤ 52 ② 53 ③ 54 ②
55 ② 56 ③ 57 ④ 58 ⑤ 59 ④ 60 ②
61 ③ 62 $\frac{1}{8}$

F 확률의 덧셈정리

01 0, 1 02 1, 0 03 $P(A \cap B)$ 04 여사건
05 ○ 06 × 07 ○ 08 ○ 09 $\frac{1}{6}$ 10 1
11 $\frac{1}{2}$ 12 0 13 $\frac{7}{10}$ 14 $\frac{3}{5}$ 15 $\frac{3}{5}$ 16 $\frac{7}{12}$
17 $\frac{5}{6}$ 18 $\frac{15}{16}$ 19 $\frac{11}{16}$ 20 0.7 21 0.4 22 0.8
23 ⑤ 24 ⑤ 25 ④ 26 ① 27 ② 28 ③
29 ③ 30 ④ 31 ① 32 ④ 33 ⑤ 34 ⑤
35 ③ 36 ⑤ 37 ⑤ 38 ③ 39 ⑤ 40 ①
41 ④ 42 ④ 43 ① 44 ④ 45 ③ 46 ①
47 ② 48 ⑤ 49 ③ 50 ③ 51 ④ 52 ⑤
53 ② 54 ③ 55 ⑤ 56 ④ 57 ④ 58 ①
59 ③ 60 ① 61 ⑤ 62 ④ 63 ④

연습 [E–F]

01 ④ 02 ② 03 ③ 04 ② 05 ① 06 ④
07 ① 08 ⑤ 09 ② 10 ① 11 ① 12 ③
13 ⑤ 14 ⑤ 15 ④ 16 14

G 조건부확률

01 조건부확률, $P(B|A)$ 02 $P(A \cap B)$
03 곱셈정리 04 $P(B|A)$, $P(A|B)$
05 ○ 06 ○ 07 × 08 × 09 $\frac{1}{2}$ 10 $\frac{2}{3}$
11 $\frac{3}{4}$ 12 $\frac{5}{8}$ 13 (가) : $\frac{1}{2}$, (나) : $\frac{1}{6}$, (다) : $\frac{1}{3}$
14 $\frac{1}{9}$ 15 $\frac{4}{9}$ 16 $\frac{3}{8}$
17 (가) : $\frac{3}{7}$, (나) : $\frac{1}{3}$, (다) : $\frac{1}{7}$
18 ⑤ 19 ② 20 ③ 21 ② 22 ⑤ 23 ①
24 ③ 25 ④ 26 ③ 27 ② 28 ③
29 ② 30 ④ 31 ③ 32 ③ 33 ③
34 ② 35 ④ 36 ② 37 ② 38 ④ 39 ④
40 ③ 41 ⑤ 42 ④

H 독립시행의 확률

01 독립, $P(B)$ 02 독립사건 03 종속, 종속사건
04 독립시행 05 ○ 06 ○ 07 × 08 ×
09 $\frac{1}{2}$ 10 $\frac{1}{3}$ 11 $\frac{1}{6}$ 12 독립 13 독립 14 독립
15 독립 16 독립 17 $\frac{1}{3}$ 18 $\frac{5}{6}$ 19 $\frac{1}{2}$ 20 $\frac{1}{3}$
21 $\frac{2}{9}$ 22 $\frac{27}{4}$ 23 ⑤ 24 ③ 25 ① 26 ②
27 ③ 28 ⑤ 29 ④ 30 ⑤ 31 ⑤ 32 ①
33 ④ 34 ② 35 ④ 36 ④ 37 ③ 38 ①
39 ⑤ 40 ⑤ 41 ② 42 ① 43 ② 44 ③
45 ① 46 ④ 47 ② 48 ⑤ 49 ⑤ 50 ④
51 ③ 52 ② 53 ③ 54 ④ 55 ⑤ 56 ②
57 ①

연습 [G–H]

01 ③ 02 ⑤ 03 ④ 04 ⑤ 05 ⑤ 06 ②
07 ③ 08 ③ 09 ④ 10 ⑤ 11 ② 12 ①
13 ② 14 2

Ⅱ 대단원 TEST [E–H]

01 ④ 02 ③ 03 ④ 04 ② 05 ③ 06 ③
07 16 08 ④ 09 ⑤ 10 ② 11 ② 12 ①
13 ③ 14 ④ 15 ④ 16 ⑤ 17 80 18 ②
19 ③ 20 ② 21 ① 22 ④ 23 ③ 24 ④
25 ④ 26 ⑤ 27 ③ 28 ⑤ 29 23 30 60

Ⅲ 확률

I 확률변수와 확률분포

01 확률변수, $P(X=x)$ 02 이산확률변수
03 확률분포 04 0, 1, 1
05 × 06 × 07 ○ 08 ㄱ, ㄴ, ㄹ
09 $X=0, 1, 2, 3, 4$ 10 $X=0, 1, 2$
11 $X=0, 1, 2, 3, 4, 5$ 12 $X=1, 2, 3, 4, 5, 6$
13 $X=0, 1, 2$ 14 x, 4, 6
15 해설 참조 16 $\frac{14}{15}$ 17 $\frac{3}{8}$
18 $\frac{3}{4}$ 19 $\frac{5}{8}$ 20 ④ 21 ⑤ 22 $X=0, 1, 2$
23 11 24 ① 25 ② 26 해설 참조
27 $\frac{1}{4}$, $\frac{1}{2}$
28 $P(X=x)=\frac{{}_3C_x \cdot {}_7C_{3-x}}{{}_{10}C_3}$ $(x=0, 1, 2, 3)$
29 ④ 30 ③ 31 ⑤ 32 ② 33 ⑤ 34 ①
35 ① 36 ② 37 ④ 38 ③ 39 ③ 40 ⑤
41 ⑤ 42 ③ 43 ④ 44 ③ 45 1 46 ②

J 이산확률변수의 기댓값, 분산, 표준편차

01 $x_1p_1+x_2p_2+x_3p_3+\cdots+x_np_n$
02 $X-m$, $E(X^2)$ 03 $V(X)$
04 a, b 05 $|a|$ 06 ○ 07 × 08 × 09 ○
10 5 11 6 12 $\sqrt{6}$ 13 해설 참조 14 $\frac{2}{3}$
15 $\frac{16}{45}$ 16 $\frac{4\sqrt{5}}{15}$ 17 7 18 16 19 6
20 $E(X)=1$, $V(X)=\frac{1}{2}$, $\sigma(X)=\frac{\sqrt{2}}{2}$
21 1 22 2 23 $\sqrt{2}$ 24 ① 25 ① 26 ④
27 ① 28 ③ 29 ④ 30 ③ 31 ⑤ 32 ①
33 ① 34 ④ 35 ② 36 ④ 37 ④ 38 ⑤

K 이항분포

01 ${}_nC_xp^xq^{n-x}$ 02 np, npq, $\sqrt{npq}$
03 $\frac{X}{n}$, p 04 ○ 05 × 06 ○
07 $B(4, 0.2)$ 08 $B(100, 0.2)$ 09 $B\left(3, \frac{1}{2}\right)$
10 $B\left(600, \frac{1}{6}\right)$ 11 $n=5, p=\frac{3}{4}$
12 $P(X=x)={}_5C_x\left(\frac{3}{4}\right)^x\left(\frac{1}{4}\right)^{5-x}$ $(x=0, 1, \cdots, 5)$
13 $\frac{135}{512}$ 14 60 15 40 16 $2\sqrt{10}$ 17 50 18 25
19 5 20 $\frac{1}{3}$ 21 $\frac{1}{2}$ 22 ④ 23 ① 24 ②
25 ④ 26 ④ 27 ② 28 ③ 29 ⑤ 30 ④
31 ③ 32 ② 33 ② 34 ④ 35 ③ 36 ②
37 ③ 38 ⑤ 39 ⑤ 40 ③ 41 ④ 42 ②
43 ⑤ 44 ③ 45 ② 46 ③ 47 ④
48 ㄱ, ㄷ, ㄴ, ㄹ

연습 [I-K]

01 ⑤ 02 ④ 03 ⑤ 04 ⑤ 05 ③ 06 ③
07 ② 08 ③ 09 ③ 10 ② 11 ⑤ 12 ⑤
13 ⑤ 14 7 15 300 16 4

L 연속확률변수와 정규분포

01 연속확률변수 02 1 03 $N(m, \sigma^2)$ 04 ○
05 ○ 06 × 07 $\frac{1}{10}$ 08 $\frac{1}{5}$ 09 1 10 $\frac{1}{2}$
11 $\frac{1}{8}$ 12 1 13 $\frac{1}{4}$ 14 $\frac{3}{4}$
15 $N(5, 4)$ 또는 $N(5, 2^2)$
16 $N(3, 2)$ 또는 $N(3, (\sqrt{2})^2)$ 17 $N(0, 1)$
18 $E(X_1)<E(X_2)<E(X_3)$
19 $V(X_1)=V(X_2)=V(X_3)$
20 $E(X_4)=E(X_5)<E(X_6)$
21 $\sigma(X_5)=\sigma(X_6)<\sigma(X_4)$ 22 ⑤
23 ㄴ, ㄷ 24 ① 25 ② 26 ⑤ 27 ④
28 ④ 29 ④ 30 ④ 31 ① 32 ④ 33 ①
34 ③

M 표준정규분포

01 표준정규분포 02 $z=0$ 03 $\frac{X-m}{\sigma}$
04 $N(np, npq)$ 05 × 06 ○ 07 × 08 1.23
09 0.4099 10 $P(-1\le Z\le 0)$
11 $P(-2\le Z\le 2)$ 12 $P(1\le Z\le 2)$
13 0.6826 14 0.1359 15 0.8413
16 0.0228 17 $E(X)=5$, $\sigma(X)=2$
18 $N(5, 2^2)$ 19 ① 20 ④ 21 ④ 22 ④
23 ④ 24 ③ 25 ④ 26 ③ 27 ③ 28 ①
29 ① 30 ⑤ 31 ③ 32 ② 33 ② 34 ③
35 ③ 36 ⑤ 37 ① 38 ② 39 ② 40 ①
41 ① 42 ③ 43 ① 44 ④ 45 ④

연습 [L-M]

01 ④ 02 ① 03 ③ 04 ③ 05 ① 06 ①
07 ④ 08 ④ 09 ② 10 ④ 11 155 12 ③
13 55

연습 [N]

01 ① 02 ① 03 ④ 04 ⑤ 05 ② 06 ③
07 ③ 08 ② 09 ① 10 25 11 25 12 2

N 통계적 추정

01 표본조사 02 $N\left(m, \frac{\sigma^2}{n}\right)$ 03 $2k\times\frac{\sigma}{\sqrt{n}}$
04 ○ 05 × 06 ○
07 전수조사 08 표본조사
09 모집단 : 유권자 전체, 표본: 성인남녀 2000명
10 모집단 : 어느 공장에서 생산하는 전구 전체,
표본 : 전구 200개
11 $E(\overline{X})=30$, $\sigma(\overline{X})=2$
12 $E(\overline{X})=10$, $\sigma(\overline{X})=\frac{1}{2}$
13 $E(\overline{X})=20$, $\sigma(\overline{X})=1$
14 $E(\overline{X})=40$, $\sigma(\overline{X})=\frac{3}{5}$
15 거짓 16 참
17 $19.608\le m\le 20.392$
18 $49.484\le m\le 50.516$ 19 $49.02\le m\le 50.98$
20 $48.71\le m\le 51.29$ 21 0.196
22 0.258 23 ㄱ, ㄷ, ㅁ, ㅂ 24 ⑤ 25 ⑤
26 ③ 27 ③ 28 ② 29 ① 30 ④ 31 ②
32 ② 33 ④ 34 ② 35 ⑤ 36 ③ 37 ③
38 ③ 39 ② 40 ④ 41 ③ 42 ⑤ 43 ④
44 ② 45 ①

Ⅲ 대단원 TEST [I-N]

01 ② 02 ③ 03 ① 04 ④ 05 ④ 06 ④
07 ① 08 ② 09 ③ 10 ④ 11 ② 12 ③
13 ② 14 8 15 ⑤ 16 ⑤ 17 ③ 18 ④
19 ⑤ 20 ③ 21 ② 22 ② 23 ③ 24 ③
25 ② 26 ⑤ 27 2 28 0.84