

A 수열의 극한

- 01 발산 02 진동(발산) 03 수렴 04 수렴 05 수렴
 06 1 07 2 08 0 09 $\frac{4}{3}$ 10 2
 11 -1 12 13 13 36 14 $-\frac{9}{5}$ 15 2
 16 3 17 4 18 5 19 $\frac{1}{2}$ 20 1
 21 ④ 22 ⑤ 23 ⑤ 24 ③ 25 ④ 26 ④ 27 ③ 28 12 29 ② 30 12
 31 ⑤ 32 ⑤ 33 21 34 33 35 15 36 ③ 37 ② 38 ⑤ 39 ③ 40 ④
 41 ② 42 ① 43 ② 44 ④ 45 110 46 ③ 47 ④ 48 ② 49 ① 50 ③
 51 ② 52 ② 53 ③ 54 ⑤ 55 ⑤ 56 ④ 57 ⑤ 58 ④ 59 ② 60 ③
 61 28 62 ② 63 ⑤ 64 ④ 65 ① 66 ③ 67 ③ 68 ① 69 ② 70 ②
 71 ① 72 ④ 73 ① 74 ⑤ 75 ④ 76 ③ 77 ③ 78 ③ 79 ③ 80 5
 81 2 82 ④ 83 6 84 ② 85 ① 86 20 87 ① 88 ⑤ 89 ① 90 ⑤
 91 12 92 ① 93 125 94 25 95 ②

B 급수

- 01 $\frac{n}{n+1}$ 02 $\sqrt{2n+1}-1$ 03 $\frac{3}{4}$ 04 $\frac{7}{24}$ 05 ∞
 06 6 07 11 08 0 09 \times 10 \times
 11 0 12 $-2 < x < 2$ 13 $-\frac{2}{3} < x < \frac{2}{3}$ 14 $0 \leq x < 2$
 15 6 16 $\frac{3}{4}$ 17 2 18 1 19 ② 20 ③
 21 ⑤ 22 ⑤ 23 9 24 ④ 25 ② 26 ③ 27 ① 28 ④ 29 ④ 30 ⑤
 31 ① 32 ④ 33 ③ 34 ③ 35 27 36 ③ 37 ③ 38 ③ 39 32 40 16
 41 ② 42 ② 43 ② 44 ① 45 ① 46 ① 47 ③ 48 ③ 49 ② 50 ②
 51 5 52 ② 53 ① 54 ③ 55 ③ 56 ② 57 ② 58 ③ 59 ③ 60 ③
 61 ③ 62 ⑤ 63 ② 64 ② 65 ① 66 ③ 67 ③ 68 ② 69 ③ 70 ②
 71 ① 72 ⑤ 73 ④ 74 ③

C 지수함수와 로그함수의 미분

- 01 ∞ 02 0 03 $-\infty$ 04 ∞ 05 $\frac{1}{5}$
 06 -1 07 e^2 08 $\frac{1}{e}$ 09 2 10 -1
 11 $\frac{\ln 6}{5}$ 12 $\frac{1}{2}$ 13 $\frac{3}{4}$ 14 $\frac{2}{3 \ln 3}$
 15 (가) 0 (나) 0 (다) 3 (라) 6 16 $y' = 4e^x$ 17 $y' = 2 \cdot 3^{2x} \ln 3$
 18 $y' = (1-x)e^{-x}$ 19 $y' = \frac{1}{x}$ 20 $y' = \frac{1}{x \ln 2}$
 21 $y' = \ln 3x + 1$ 22 (가) 0 (나) -1 (다) $\frac{a}{x}$ (라) 1
 23 ③ 24 ① 25 ④ 26 ③ 27 ① 28 ③ 29 ⑤ 30 ③
 31 ④ 32 ② 33 ② 34 ⑤ 35 ⑤ 36 ② 37 ③ 38 ① 39 ① 40 5
 41 ⑤ 42 ① 43 ④ 44 ③ 45 ③ 46 ③ 47 ① 48 ① 49 2 50 ②
 51 ④ 52 ② 53 4 54 ① 55 ② 56 ① 57 50 58 10 59 ② 60 ④
 61 ⑤ 62 ⑤

D 삼각함수의 덧셈정리

- 01 $\frac{5}{4}$ 02 $-\frac{5}{3}$ 03 $-\frac{3}{4}$ 04 $\frac{10}{9}$ 05 $-\sin^2 \theta$
 06 $\frac{\sqrt{2}+\sqrt{6}}{4}$ 07 $\frac{\sqrt{6}-\sqrt{2}}{4}$ 08 $2+\sqrt{3}$ 09 $2-\sqrt{3}$ 10 1
 11 $\frac{\sqrt{2}}{2}$ 12 $\frac{\sqrt{3}}{2}$ 13 $-\frac{1}{2}$ 14 $\frac{\sqrt{3}}{3}$ 15 1
 16 $-\frac{63}{65}$ 17 $-\frac{56}{65}$ 18 $2 \sin \theta \cos \theta$
 19 $\cos^2 \theta - \sin^2 \theta$ 20 $\frac{2 \tan \theta}{1 - \tan^2 \theta}$
 21 $-\frac{4\sqrt{2}}{9}$ 22 $-\frac{7}{9}$ 23 $\frac{4\sqrt{2}}{7}$ 24 49 25 7
 26 ③ 27 26 28 ① 29 ② 30 ①
 31 ② 32 11 33 ④ 34 ④ 35 5 36 ① 37 ⑤ 38 ① 39 ① 40 ④
 41 ③ 42 ① 43 ④ 44 ⑤ 45 ③ 46 ④ 47 18 48 ⑤ 49 ③ 50 ⑤
 51 5 52 ④ 53 ③ 54 ⑤ 55 35 56 3 57 ④ 58 53 59 11 60 18
 61 43 62 ③ 63 ② 64 40

E 삼각함수의 미분

- 01 $\frac{\sqrt{2}}{2}$ 02 -2 03 2 04 1 05 1
 06 $\frac{1}{2}$ 07 $\frac{2}{3}$ 08 $\frac{2}{3}$ 09 3 10 6
 11 4 12 $y' = -\sin + 2$ 13 $y' = 2x + 5 - \cos x$
 14 $y' = \cos x - 3 \sin x$ 15 $y' = \sin x + x \cos x$
 16 $y' = -2 \sin x \cos x$ 17 $y' = e^x (\cos x - \sin x)$
 18 2 19 ⑤ 20 ①
 21 ② 22 20 23 ③ 24 ④ 25 8 26 ② 27 ③ 28 ④ 29 ③ 30 ①
 31 25 32 ④ 33 2 34 60 35 ① 36 ④ 37 ① 38 ① 39 ③ 40 ②
 41 ④ 42 4 43 11 44 ③ 45 15 46 ③ 47 ⑤ 48 ④ 49 ③ 50 ③
 51 ① 52 2 53 ① 54 ④ 55 ⑤ 56 ⑤ 57 9 58 ② 59 ⑤ 60 ⑤
 61 50 62 ② 63 ① 64 40 65 ② 66 25 67 23 68 135

F 여러 가지 미분법

01 $y' = -\frac{1}{(x-2)^2}$ 02 $y' = \frac{-3x^4+6x^2+6x}{(x^3+1)^2}$

03 $y' = -\frac{e^x}{(e^x+5)^2}$ 04 $y' = \frac{1-\ln x}{x^2}$

05 $y' = 2(4x^2-x+5)(8x-1)$ 06 $y' = \frac{4}{(3-x)^5}$

07 $y' = 3e^{3x-1}$ 08 $y' = e^x \cos(e^x)$

09 $y' = -\frac{x}{(x^2+6)\sqrt{x^2+6}}$ 10 $\frac{dy}{dx} = t$

11 $\frac{dy}{dx} = \frac{e^{2t}+1}{e^{2t}-1}$ 12 $\frac{dy}{dx} = -\cot t$

13 $\frac{dy}{dx} = -\frac{y}{x} (x \neq 0)$ 14 $\frac{dy}{dx} = \frac{2x-y}{x-2y} (x-2y \neq 0)$

15 $\frac{dy}{dx} = \frac{2x-3y}{3x-2y} (3x-2y \neq 0)$

16 (7) $2y$ (나) y^2+8 (다) $\frac{\sqrt{y^2+8}}{y}$ 17 $\frac{dy}{dx} = \frac{1}{3^3\sqrt{x^2}}$

18 $\frac{dy}{dx} = x$ 19 $\frac{dy}{dx} = \frac{1}{\sqrt[3]{(3x-4)^2}}$ 20 $y'' = 6x-12$

21 $y'' = -\frac{1}{x^2}$ 22 $y'' = -9 \sin 3x$

- 23 8 24 ③ 25 ⑤ 26 ① 27 ① 28 ④ 29 ② 30 ②
 31 ④ 32 ⑤ 33 3 34 ④ 35 1 36 3 37 ③ 38 ① 39 2 40 ④
 41 5 42 ② 43 ③ 44 ⑤ 45 ④ 46 ④ 47 ④ 48 ② 49 ① 50 ⑤
 51 ② 52 ⑤ 53 ① 54 ④ 55 ④ 56 ④ 57 ⑤ 58 ① 59 4 60 ②
 61 ④ 62 25 63 ③ 64 17 65 ③ 66 ③ 67 ① 68 3 69 ⑤ 70 ①
 71 15 72 ④ 73 ⑤ 74 ① 75 ① 76 11 77 17 78 15 79 ④ 80 ④
 81 ②

G 도함수의 활용

01 $y = -x+4$ 02 $y = 4x-1$ 03 $y = \frac{3}{2}x - \frac{1}{2}$

04 $y = 2x - \frac{\pi}{2} + 1$ 05 $y = -2x+1$ 06 $y = x$

07 극댓값: $\frac{1}{3}$, 극솟값: -1 08 극댓값: $\frac{\pi}{2}$, 극솟값: $-\frac{3}{2}\pi$

09 극솟값: $e^{-\frac{9}{4}}$ 10 극댓값: $\frac{1}{e}$

11 최댓값: 16, 최솟값: 12 12 최댓값: $\frac{2}{3}\pi + \sqrt{3}$, 최솟값: 0

13 최댓값: $2e^2$, 최솟값: $-\frac{1}{e}$ 14 최댓값: e^2 , 최솟값: 0

15 $(-1, 0)$ 16 $(\frac{\pi}{2}, \frac{\pi}{2})$ 17 $(0, -2)$ 18 $(\sqrt{3}, \sqrt{3})$

19 해설 참조 20 1 21 속도: $-\frac{1}{e^2}$, 가속도: $\frac{1}{e^2}$

22 속도: $(\frac{\sqrt{3}}{2}, -1)$, 가속도: $(-\frac{1}{2}, -\sqrt{3})$

- 23 ① 24 ③ 25 ③ 26 ④ 27 ④ 28 ③ 29 10 30 ④
 31 ④ 32 26 33 ③ 34 ② 35 ② 36 3 37 ⑤ 38 ① 39 ⑤ 40 ③
 41 ⑤ 42 37 43 ② 44 ④ 45 ① 46 ③ 47 ② 48 ③ 49 ③ 50 ②
 51 11 52 ③ 53 ④ 54 27 55 ④ 56 34 57 ④ 58 ② 59 ① 60 ④
 61 ① 62 2 63 96 64 ① 65 ⑤ 66 ⑤ 67 ② 68 ③ 69 ③ 70 ④
 71 ③ 72 ③ 73 ③ 74 ② 75 ⑤ 76 13 77 4 78 8 79 ③ 80 ③
 81 ⑤ 82 ④ 83 ④ 84 ① 85 ④ 86 24 87 ③ 88 ⑤ 89 6 90 ⑤
 91 16 92 30

H 여러 가지 적분법

- 01 $3\ln|x| + C$ 02 $\frac{3}{5}x^3\sqrt{x^2} + C$ 03 $e^{x+2} + C$
 04 $\frac{2^x}{\ln 2} + C$ 05 $-\cos x + 2\sin x + C$
 06 $\frac{1}{16}(4x-1)^4 + C$ 07 $2\sqrt{x^2+1} + C$ 08 $\frac{1}{4}\sin^4 x + C$
 09 (가) x (나) 1 (다) e^x (라) $(x-1)e^x$
 10 $x\sin x + \cos x + C$ 11 $x\ln x - x + C$
 12 $\frac{38}{3}$ 13 $\frac{2}{3}$ 14 $\frac{1}{4}$ 15 $-\frac{2}{e} + 1$
 16 $\log \frac{x+1}{x}$ 17 $e^x \left(1 - \frac{1}{e^2}\right)$ 18 -1 19 2 20 13
 21 ② 22 ③ 23 ① 24 ⑤ 25 ① 26 ⑤ 27 ② 28 ④ 29 ⑤ 30 ④
 31 72 32 ④ 33 ① 34 ① 35 ② 36 ④ 37 ② 38 4 39 ⑤ 40 ④
 41 ④ 42 ① 43 ⑤ 44 ⑤ 45 ③ 46 ① 47 ③ 48 ② 49 ⑤ 50 3
 51 ① 52 ⑤ 53 12 54 12 55 ① 56 ② 57 ② 58 ⑤ 59 ④ 60 ②
 61 7 62 6 63 ① 64 ② 65 20 66 12 67 ② 68 ② 69 ④ 70 ③
 71 ① 72 ④ 73 ③ 74 ③ 75 ⑤ 76 ② 77 ① 78 ① 79 ⑤ 80 ②
 81 ④ 82 ⑤ 83 ① 84 ④ 85 ④ 86 83 87 35

I 정적분의 활용

- 01 2 02 $\frac{4}{3}(e^3-1)$ 03 $\frac{2}{\pi}$ 04 1 05 $\frac{16}{3}$
 06 $2\left(e^2 - \frac{1}{e}\right)$ 07 1 08 $\frac{7}{3}$ 09 $3\ln 3 - 2$
 10 $e^2 - e - \frac{3}{2}$ 11 $\frac{5}{2} + 6\ln \frac{2}{3}$ 12 $e^2 + \frac{1}{e^2} - 2$
 13 $2\sqrt{2} - 2$ 14 (가) $30 - x^2$ (나) 5 (다) $30x - \frac{1}{3}x^3$ (라) $\frac{325}{3}\pi$
 15 $\ln 7$ 16 $4\sqrt{3}$ 17 3 18 $8\sqrt{5}$ 19 $\frac{14}{3}$ 20 19
 21 ④ 22 ③ 23 ③ 24 ④ 25 242 26 ① 27 ① 28 ④ 29 5 30 ①
 31 11 32 32 33 ③ 34 ⑤ 35 ② 36 ④ 37 ① 38 ③ 39 ③ 40 ①
 41 ① 42 ① 43 ⑤ 44 ⑤ 45 ① 46 ④ 47 ② 48 ② 49 ① 50 ②
 51 ② 52 ③ 53 ③ 54 ⑤ 55 ③ 56 ② 57 ② 58 ③ 59 340 60 ④
 61 ③ 62 ③ 63 ③ 64 ② 65 64 66 ⑤ 67 ⑤ 68 56 69 24 70 80
 71 15

〈내신+수능 대비 단원별 모의고사〉

A 수열의 극한

- 01 ③ 02 ③ 03 ② 04 ② 05 ④ 06 ② 07 35 08 ③ 09 192 10 ①
 11 5

B 급수

- 01 50 02 ① 03 ④ 04 ⑤ 05 ⑤ 06 ① 07 ① 08 ③ 09 ① 10 7

C 지수함수와 로그함수의 미분

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

D 삼각함수의 덧셈정리

- 01 ④ 02 ③ 03 ③ 04 ② 05 ⑤ 06 ③ 07 ① 08 ③ 09 ④ 10 ③
 11 ④ 12 9

E 삼각함수의 미분

- 01 ④ 02 ④ 03 ③ 04 ④ 05 ④ 06 80 07 ② 08 ② 09 ③ 10 2

F 여러 가지 미분법

- 01 ④ 02 ⑤ 03 14 04 12 05 ③ 06 4 07 ① 08 ⑤ 09 4 10 ③
 11 32

G 도함수의 활용

- 01 ① 02 ④ 03 16 04 ② 05 ② 06 ② 07 ③ 08 ⑤ 09 ① 10 ③
 11 4

H 여러 가지 적분법

- 01 ⑤ 02 15 03 ③ 04 ① 05 ④ 06 ① 07 ⑤ 08 ① 09 ④ 10 ④
 11 4

I 정적분의 활용

- 01 12 02 ① 03 27 04 ② 05 ① 06 ② 07 ⑤ 08 ② 09 7 10 78
 11 4