삼각함수 단순 미적분 100문제

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1. $(\sec x)'$ 1. $(\tan x)$ 4. $-\sec^2 x$	 2 sec x cot x 5 sec x tan x 	$ (3) \csc x \cot x $	11. $-(\sec x)'$ $(1) - \sec x \tan x$ $(4) \sec^2 x$	 (2) tan x (5) sec x sin x 	$3 \sec x \cos x$
$2. (\tan x)'$		$(3) - \cos x$	$12(\tan x)'$ $(1) \cos x$ $(4) - \csc x \sin x$		$(3) - \sec^2 x$
3. $-(\tan x)'$ ① $\sec x \cot x$ ④ $\sec x \sin x$		$(3) - \sin x$	13. $(\sec x)'$ ① $\sec x \tan x$ ④ $-\cos x$		$ (3) - \csc x \tan x $
4. $(\csc x)'$ ① $-\csc x \sin x$ ④ $\sec x \sin x$		$ (3) - \csc x \cot x $	14. $-(\sin x)'$ ① $\sec x \sin x$ ④ $-\csc x \cos x$	•	3 $\sec x \tan x$
5. $-(\tan x)'$ (1) $\csc^2 x$ (4) $-\csc x \tan x$		$ (3) \sec x \cot x $	15. $\int -\sin x dx \text{ (C}$ $\bigcirc 1 - \sec x$ $\bigcirc 2 \cos x$	생략) ② sec x ⑤ - cot x	$3 \sin x$
6. $(\csc x)'$ $(1) - \csc x \cot x$ $(4) - \sec^2 x$		$ (3) - \csc x \sin x $	16. $(\sin x)'$ ① $\cos x$ ④ $\sec x \tan x$		$ (3) - \csc^2 x $
7. $(\cos x)'$ 1) $-\sin x$ 4) $\csc x \cot x$	$ (2) - \sin^2 x $ $ (5) \csc^2 x $	$ (3) \sec x \cot x $	17. $\int -\sec x \tan x dx$ $(1) \sin x$ $(4) -\sin x$	dx (C 생략) ② cot x ⑤ tan x	$3 - \sec x$
8. $-(\cot x)'$ ① $\cot^2 x$ ④ $-\csc x \cot x$		$ (3) - \csc x \tan x $	18. $(\cot x)'$ $(1) - \sec x \tan x$ $(4) - \csc^2 x$		$ (3) - \csc x \cos x $
9. $\int -\sec x \tan x dx$ ① $\cot x$ ④ $\tan x$	x (C 생략) ② - cos x ⑤ - csc x	3 $-\sec x$	19. $\int \sec^2 x dx \text{ (C } x$ ① $\tan x$ ④ $\cot x$	생략) ② $\cos x$ ⑤ $\sin x$	$(3) - \sin x$
$10. \int -\csc^2 x dx \ (0$ $10 -\sin x$	C 생략) ② sin x	$\odot \cot x$	$20(\cos x)'$ $(1) - \csc x \cot x$	$ (2) - \csc x \tan x $	$ (3) \csc x \cot x $

 $(4) - \tan x \qquad (5) \csc x$

 $(4) - \csc^2 x \qquad (5) \sin x$

 $21. \int -\sec x \tan x \, dx$ (C 생략) 33. ∫ cos x dx (C 생략) \bigcirc $-\csc x$ (2) csc x \bigcirc $-\sec x$ \bigcirc $\sin x$ (2) $\tan x$ \bigcirc cot x \bigcirc $-\cot x$ (5) $-\sin x$ \bigcirc $-\tan x$ $(5) - \sin x$ 22. $-(\sec x)'$ 34. $-(\sec x)'$ \bigcirc $-\csc^2 x$ (1) $-\sec x \tan x$ (2) $\sec x \cos x$ \bigcirc $-\sec^2 x$ \bigcirc sec $x \sin x$ (2) $-\cos x$ \bigcirc $\cot^2 x$ (5) $-\sec x \tan x$ (5) $\sin x$ 23. $(\sin x)'$ 35. $-(\csc x)'$ (3) sec $x \sin x$ \bigcirc tan x(2) $\csc x \cot x$ \bigcirc $-\cos x$ \bigcirc $\cos x$ (2) sec $x \cos x$ \bigcirc $-\csc x \cot x$ (5) sec $x \cot x$ (4) $\sin x$ (5) $-\sin x$ 36. $-(\tan x)'$ 24. $(\sin x)'$ (2) $\sec^2 x$ \bigcirc $\cos x$ $(2) - \csc x \sin x$ (3) $\sec^2 x$ \bigcirc sec $x \sin x$ $(3) - \csc^2 x$ \bigcirc $-\sec^2 x$ (5) $-\csc x \tan x$ (5) $\csc^2 x$ \bigcirc $-\sin x$ 37. $(\sin x)'$ $25. \int -\sec x \tan x \, dx$ (C 생략) (2) $\sec^2 x$ \bigcirc sec $x \cos x$ (3) $\cos x$ \bigcirc $\sin x$ (2) sec x \bigcirc $\cos x$ $(4) - \csc x \cos x \quad (5) - \sec^2 x$ \bigcirc cot x $(5) - \sec x$ 38. $(\tan x)'$ 26. $(\sec x)'$ (1) $-\csc x \cot x$ (3) sec $x \cot x$ (1) $-\csc x \tan x$ (2) $\csc x \cot x$ (3) $\sec x \cos x$ (2) $\tan x$ (4) $\sec^2 x$ (5) $\cos^2 x$ \bigcirc $\cos^2 x$ (5) sec $x \tan x$ 27. $(\cos x)'$ 39. $(\csc x)'$ (1) $-\csc x \tan x$ (2) $\tan x$ (3) $\cos^2 x$ \bigcirc sec $x \cos x$ (2) sec $x \cot x$ (3) sec $x \sin x$ (4) $-\csc x \cot x$ (5) $\sec^2 x$ (4) $-\sec x \tan x$ (5) $-\sin x$ $40. \int -\sec^2 dx$ (C 생략) 28. $-(\cos x)'$ \bigcirc sec $x \cos x$ (2) $\cos x$ (3) sec $x \cot x$ \bigcirc - sec x(2) $\cot x$ \bigcirc $\cos x$ \bigcirc $\sin x$ (5) $-\csc x \cot x$ $(4) - \tan x$ (5) $-\cos x$ $29. \int -\csc^2 x \, dx$ (C 생략) 41. ∫ sin x dx (C 생략) \bigcirc $-\cos x$ (2) $-\tan x$ \bigcirc $-\cot x$ \bigcirc sec x(2) csc x(3) $\sin x$ \bigcirc $\tan x$ \bigcirc cot x $(5) - \sec x$ (5) $-\cos x$ $30. -(\cos x)'$ 42. $(\sin x)'$ \bigcirc $-\sec^2 x$ (2) $-\csc x \cot x$ (3) $\csc^2 x$ (1) $-\sec x \tan x$ (2) $\cos x$ (3) $\sec x \sin x$ \bigcirc cot² x \bigcirc $-\csc^2 x$ (5) $-\csc x \cot x$ \bigcirc $\sin x$ 43. ∫ – sec² dx (C 생략) 31. ∫ sec x tan x dx (C 생략) \bigcirc $-\cos x$ (2) $\tan x$ \bigcirc $-\tan x$ \bigcirc csc x(2) sec x \Im $\sin x$ \bigcirc $\cos x$ (5) $\csc x$ $(4) - \sin x$ (5) $-\csc x$ 44. $\int \sec^2 x \, dx$ (C 생략) 32. $(\csc x)'$ \bigcirc - sec $x \tan x$ \bigcirc cos x \bigcirc $-\csc x \cot x$ \bigcirc $\sin x$ (2) $-\csc x$ \bigcirc cot x

 $(4) - \tan x$

(5) $\tan x$

 $(4) - \csc^2 x$

(5) $\cos^2 x$

45. ∫ cos x dx (C 생략) 57. $(\tan x)'$ $(1) - \csc x \cos x \quad (2) \cos x$ (3) $-\sin^2 x$ \bigcirc - sec x(2) $\sin x$ \bigcirc $\tan x$ \bigcirc sec² x(5) $-\csc^2 x$ $(5) - \cos x$ $46. \int -\sec x \tan x \, dx$ (C 생략) 58. ∫ csc² x dx (C 생략) \bigcirc $-\cot x$ \bigcirc $-\cos x$ \bigcirc tan x \bigcirc $-\sin x$ \bigcirc $-\cot x$ \bigcirc sec x(5) $-\sec x$ (5) $\cos x$ 47. $\int -\sec^2 dx$ (C 생략) 59. $-(\sin x)'$ \bigcirc csc² x $\widehat{(2)} - \cos x$ \bigcirc $-\sec^2 x$ \bigcirc tan x \bigcirc $-\cos x$ \bigcirc $-\sin x$ \bigcirc sec $x \cos x$ $(4) - \tan x$ (5) $\tan x$ $(5) \cot x$ 60. $-(\cot x)'$ $48. \int \sec x \tan x \, dx$ (C 생략) (2) $-\csc x \cos x$ (3) $\csc^2 x$ \bigcirc $\cos x$ \bigcirc $-\cos x$ \bigcirc $-\cot x$ \bigcirc sec x \bigcirc $-\sin^2 x$ \bigcirc cot x(5) csc x(5) $-\csc x \tan x$ 49. $\int \csc^2 x \, dx$ (C 생략) $61. \int -\sec x \tan x \, dx$ (C 생략) \bigcirc csc x \bigcirc cot x(2) $\sin x$ \bigcirc $-\sec x$ (2) $\cos x$ (3) $\tan x$ \bigcirc $-\cot x$ (4) sec x(5) $-\sin x$ (5) $\cot x$ 50. ∫ sin x dx (C 생략) 62. $-(\csc x)'$ \bigcirc tan x(2) $-\csc x \tan x$ (3) $\csc x \cot x$ \bigcirc $-\tan x$ (2) $-\cot x$ \bigcirc $-\cos x$ $(4) - \cos x$ (5) $-\csc x \sin x$ (4) sec x(5) $\cos x$ 63. $(\cot x)'$ 51. $(\sin x)'$ \bigcirc $-\sec^2 x$ \bigcirc $-\csc^2 x$ \bigcirc cos x(2) $\tan x$ (3) $-\sin^2 x$ \bigcirc $-\cos x$ \bigcirc cot² x(4) $-\csc x \tan x$ (5) $\csc^2 x$ (4) $-\csc x \sin x$ 64. $-(\cot x)'$ 52. $-(\sin x)'$ \bigcirc csc $x \cot x$ (2) $\sec^2 x$ \bigcirc $-\csc x \tan x$ \bigcirc $\cos x$ \bigcirc csc² x $(3) - \cos x$ \bigcirc $\cos^2 x$ (5) $-\csc x \cos x$ \bigcirc $-\cos x$ (5) $\tan x$ $53. \int -\sec x \tan x \, dx$ (C 생략) 65. $-(\sec x)'$ \bigcirc csc² x \bigcirc sec² x \bigcirc $-\sin x$ \bigcirc $-\csc x$ (2) csc x $\widehat{(3)} - \sec x$ $(4) - \sin x$ (5) $-\cos x$ $(4) - \sec x \tan x \quad (5) - \sin^2 x$ 54. $(\cos x)'$ 66. $-(\cos x)'$ \bigcirc sec $x \cos x$ $(2) - \csc x \cos x$ $(3) \sin x$ \bigcirc $-\sin x$ \bigcirc csc² x (3) $\tan x$ \bigcirc $-\sin^2 x$ \bigcirc $\sin x$ (5) $-\sin x$ (5) $-\csc x \tan x$ 67. $(\cot x)'$ 55. $(\sin x)'$ \bigcirc $\tan x$ (2) $-\csc x \tan x$ (3) $\sec x \cot x$ \bigcirc $-\csc x \sin x$ \bigcirc tan x \bigcirc $\cos x$ \bigcirc cot² x \bigcirc $\cos x$ $(5) - \csc^2 x$ $(4) - \csc x \cos x$ 68. ∫ - sec² dx (C 생략) 56. $-(\csc x)'$

 \bigcirc $\sin x$

 \bigcirc $-\cos x$

(2) $\tan x$

(5) $-\tan x$

(3) sec x

(3) csc $x \cot x$

 \bigcirc sec $x \sin x$

(4) sec $x \tan x$

(2) $\sin x$

(5) $-\csc x \cos x$

69. $\int \csc x \cot x \, dx$ (C 생략) 81. ∫ cos x dx (C 생략) \bigcirc tan x(2) csc x \bigcirc $-\tan x$ \bigcirc sec x $(2) - \cos x$ \bigcirc tan x \bigcirc $-\csc x$ \bigcirc cot x(5) $\sin x$ (5) $\cot x$ 70. $(\cos x)'$ 82. $\int \csc^2 x \, dx$ (C 생략) $(1) - \csc x \cot x$ \bigcirc $-\csc x \tan x$ \bigcirc \bigcirc $\cos x$ \bigcirc sec x(2) $-\tan x$ \bigcirc $-\sec x$ \bigcirc sec $x \cos x$ (5) $-\sin x$ \bigcirc $\sin x$ (5) $-\cot x$ 71. $(\sec x)'$ 83. $(\sec x)'$ \bigcirc csc $x \cot x$ (2) $-\csc x \sin x$ (3) $\sec^2 x$ \bigcirc $-\sec^2 x$ (2) sec $x \cot x$ (3) $\tan x$ $(4) - \sin x$ (5) sec $x \tan x$ (4) sec $x \tan x$ (5) $-\csc x \tan x$ 72. $(\sec x)'$ 84. $\int \sec x \tan x \, dx$ (C 생략) \bigcirc - $\sec^2 x$ (2) $\sec^2 x$ (3) $\cos^2 x$ \bigcirc $-\csc x$ \bigcirc $\cos x$ \bigcirc csc x(4) sec $x \tan x$ (5) $\csc x \cot x$ $\widehat{(4)}$ sec x(5) $-\tan x$ 73. ∫ – sec² dx (C 생략) 85. $(\cos x)'$ \bigcirc $-\tan x$ \bigcirc $-\sin x$ \bigcirc $-\csc x$ \bigcirc $-\cos x$ \bigcirc $\tan x$ (3) $-\csc x \cos x$ \bigcirc $\cot^2 x$ \bigcirc $-\sin x$ (5) $\cot x$ (5) $-\csc x \sin x$ 74. $(\sin x)'$ 86. $(\sec x)'$ \bigcirc $\cos x$ (2) $-\csc x \tan x$ (3) $\tan x$ \bigcirc sec² x $(2) - \csc x \tan x$ $(3) \sec x \tan x$ \bigcirc $-\csc^2 x$ \bigcirc $-\sin x$ (5) sec $x \sin x$ (5) $-\csc x \cot x$ 87. $-(\csc x)'$ 75. $-(\tan x)'$ \bigcirc $-\sec^2 x$ \bigcirc $\sin x$ \bigcirc csc² x $(3) - \sec x \tan x$ (2) $\csc x \cot x$ \bigcirc $-\sec x \tan x$ (4) $\sec^2 x$ \bigcirc sec² x(5) $-\csc^2 x$ (5) $-\csc x \cos x$ 88. $\int \sec x \tan x \, dx$ (C 생략) 76. $\int \cos x \, dx$ (C 생략) \bigcirc $-\tan x$ (2) $\cos x$ (3) sec x \bigcirc $\sin x$ (2) $\cos x$ \bigcirc cot x \bigcirc $-\sin x$ (5) $-\tan x$ \bigcirc $\tan x$ $(5) - \csc x$ 77. ∫ sin x dx (C 생략) 89. $\int -\sec x \tan x \, dx$ (C 생략) \bigcirc $\sin x$ \bigcirc csc x \bigcirc csc x \bigcirc cos x \bigcirc $-\tan x$ (2) $\cos x$ $(4) - \cos x$ (5) $\tan x$ $(4) - \cos x$ $(5) - \sec x$ 90. $-(\cot x)'$ 78. $-(\tan x)'$ \bigcirc sec $x \tan x$ (2) $-\sin^2 x$ (3) $\csc x \cot x$ $(1) - \csc x \sin x$ (2) sec $x \cos x$ \bigcirc $\csc^2 x$ \bigcirc cot² x(5) $-\sec^2 x$ (4) sec $x \cos x$ 79. $-(\cos x)'$ 91. $\int \csc x \cot x \, dx$ (C 생략) \bigcirc $\sin x$ (2) $-\csc x \tan x$ (3) $\cos x$ \bigcirc $-\csc x$ $(2) - \cos x$ \bigcirc sec x \bigcirc $\cos^2 x$ (5) $\cot^2 x$ $(4) - \tan x$ (5) $-\cot x$ 80. $-(\sin x)'$ 92. $-(\csc x)'$ \bigcirc $\cos^2 x$ $\widehat{\text{(3)}} - \sin^2 x$ \bigcirc $-\csc x \cot x$ \bigcirc csc $x \cot x$ (2) sec $x \tan x$ \bigcirc $-\sec x \tan x$

 $(4) - \cos x$

(5) $\csc x \cot x$

 \bigcirc cot² x

(5) $-\sec^2 x$

- 93. $-(\tan x)'$
 - \bigcirc $\cos x$
- \bigcirc $-\sin^2 x$
- \bigcirc $-\csc x \cot x$

 \bigcirc $-\sec x \tan x$

- \bigcirc $-\sec^2 x$
- (5) $-\sin x$
- 94. $-(\cot x)'$
 - \bigcirc $-\csc x \tan x$
- \bigcirc $\cot^2 x$
- \bigcirc $\csc^2 x$
- (5) $\sin x$
- 95. $-(\sec x)'$
 - \bigcirc $-\cos x$
- $(2) \sec x \tan x \quad (3) \cot^2 x$
- \bigcirc sec $x \cot x$
- $(5) \sin^2 x$
- 96. $\int \csc^2 x \, dx$ (C 생략)
 - \bigcirc $-\cos x$
- \bigcirc $\cos x$
- \bigcirc $\sin x$
- \bigcirc $\cot x$
- 97. $(\tan x)'$
 - \bigcirc sec² x
- \bigcirc $-\sin x$
- \bigcirc $-\csc x \cos x$

 \bigcirc $-\cot x$

- $(4) \csc x \cot x \quad (5) \tan x$
- 98. ∫ $\sec^2 dx$ (C 생략)
 - \bigcirc $\tan x$
- \bigcirc cot x
- \bigcirc $-\tan x$

- \bigcirc $\cos x$
- \bigcirc $\sin x$
- 99. $\int -\sec^2 dx$ (C 생략)
 - \bigcirc $-\tan x$
- \bigcirc $\tan x$
- $\Im \sin x$

- \bigcirc $-\cot x$
- \bigcirc $-\sec x$
- 100. $\int \sin x \, dx$ (C 생략)
 - \bigcirc $\sin x$
- \bigcirc cot x
- $\Im \tan x$

- \bigcirc $-\cos x$
- \bigcirc $\cos x$

정답

- 1. ④ ① ① ② ④ 6. ① ① ① ② ②
- 11. (0) (2) (0) (4) (3) 16. (0) (2) (3) (0) (4) 21. (2) (4) (0) (0) (4)
- 21. ② ④ ⑩ ⑪ ④
 26. ④ ④ ③ ③ ③
 31. ① ② ⑩ ⑪ ①
 36. ③ ② ③ ③ ③ ③
 41. ④ ① ② ④ ①
 46. ④ ③ ② ③ ②
 51. ⑩ ③ ② ④ ②
 56. ② ③ ⑪ ① ②
 61. ② ② ① ① ①
 66. ③ ④ ④ ③ ④
 71. ④ ③ ⑪ ⑪ ⑪
 76. ⑪ ③ ④ ⑪ ③
 81. ④ ④ ③ ③ ③ ⑪
 91. ⑪ ⑪ ③ ③ ① ①