

삼각함수 단순 미적분 100문제

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1. $(\sin x)'$

- ① $\csc x \cot x$ ② $\sec x \cot x$ ③ $\cos x$
④ $-\csc x \sin x$ ⑤ $-\sec x \tan x$

2. $(\tan x)'$

- ① $-\cos x$ ② $-\csc x \cot x$ ③ $\csc^2 x$
④ $-\csc x \cos x$ ⑤ $\sec^2 x$

3. $\int -\csc^2 x \, dx$

- ① $-\sec x + C$ ② $\cot x + C$ ③ $\csc x + C$
④ $-\csc x + C$ ⑤ $\sec x + C$

4. $\int -\sec^2 x \, dx$

- ① $-\tan x + C$ ② $-\cos x + C$ ③ $\tan x + C$
④ $-\csc x + C$ ⑤ $\csc x + C$

5. $\int \sec x \tan x \, dx$

- ① $-\tan x + C$ ② $\sec x + C$ ③ $-\cos x + C$
④ $\tan x + C$ ⑤ $-\sin x + C$

6. $(\tan x)'$

- ① $\sec x \sin x$ ② $-\cos x$ ③ $\sec^2 x$
④ $\csc^2 x$ ⑤ $\sec x \cos x$

7. $\int \sec^2 x \, dx$

- ① $\cos x + C$ ② $\tan x + C$ ③ $\sin x + C$
④ $-\cot x + C$ ⑤ $-\sin x + C$

8. $(\csc x)'$

- ① $-\csc x \sin x$ ② $\csc^2 x$ ③ $-\csc x \cot x$
④ $\tan x$ ⑤ $\sec^2 x$

9. $\int -\csc^2 x \, dx$

- ① $-\tan x + C$ ② $\sin x + C$ ③ $\csc x + C$
④ $\cot x + C$ ⑤ $\cos x + C$

10. $(\sec x)'$

- ① $-\csc x \tan x$ ② $\csc^2 x$ ③ $-\csc x \cos x$
④ $\sec x \tan x$ ⑤ $\csc x \cot x$

11. $-(\cos x)'$

- ① $\sec^2 x$ ② $-\csc x \tan x$ ③ $\cos x$
④ $\sin x$ ⑤ $-\csc^2 x$

12. $-(\sec x)'$

- ① $\sec x \tan x$ ② $\cot^2 x$ ③ $-\sec x \tan x$
④ $\sec x \sin x$ ⑤ $\cos^2 x$

13. $-(\cos x)'$

- ① $-\sin^2 x$ ② $\csc x \cot x$ ③ $-\csc^2 x$
④ $-\sec^2 x$ ⑤ $\sin x$

14. $\int -\csc x \cot x \, dx$

- ① $-\cos x + C$ ② $-\sec x + C$ ③ $-\sin x + C$
④ $\csc x + C$ ⑤ $-\cot x + C$

15. $\int -\sec^2 x \, dx$

- ① $-\sin x + C$ ② $\sec x + C$ ③ $-\cot x + C$
④ $-\tan x + C$ ⑤ $-\csc x + C$

16. $(\sin x)'$

- ① $\sec x \sin x$ ② $\cos^2 x$ ③ $\sec^2 x$
④ $\tan x$ ⑤ $\cos x$

17. $-(\cot x)'$

- ① $\sec^2 x$ ② $-\csc^2 x$ ③ $\csc^2 x$
④ $-\cos x$ ⑤ $\sec x \sin x$

18. $\int -\csc^2 x \, dx$

- ① $-\cos x + C$ ② $-\sec x + C$ ③ $\csc x + C$
④ $-\sin x + C$ ⑤ $\cot x + C$

19. $\int -\csc x \cot x \, dx$

- ① $-\sin x + C$ ② $\tan x + C$ ③ $\sin x + C$
④ $\csc x + C$ ⑤ $\cos x + C$

20. $\int \cos x \, dx$

- ① $-\cos x + C$ ② $\sin x + C$ ③ $\cos x + C$
④ $-\csc x + C$ ⑤ $\tan x + C$

21. $\int -\csc x \cot x \, dx$

- ① $\csc x + C$ ② $-\sec x + C$ ③ $\cos x + C$
 ④ $\cot x + C$ ⑤ $\sin x + C$

22. $\int \sin x \, dx$

- ① $-\sec x + C$ ② $-\csc x + C$ ③ $\cot x + C$
 ④ $-\cos x + C$ ⑤ $\cos x + C$

23. $\int -\cos x \, dx$

- ① $\tan x + C$ ② $-\sin x + C$ ③ $\cot x + C$
 ④ $-\cot x + C$ ⑤ $\sin x + C$

24. $(\csc x)'$

- ① $-\sin x$ ② $-\csc x \cot x$ ③ $-\cos x$
 ④ $-\csc x \cos x$ ⑤ $\csc^2 x$

25. $\int -\csc x \cot x \, dx$

- ① $\tan x + C$ ② $\csc x + C$ ③ $-\cot x + C$
 ④ $\cot x + C$ ⑤ $-\tan x + C$

26. $\int \csc x \cot x \, dx$

- ① $\tan x + C$ ② $-\csc x + C$ ③ $\csc x + C$
 ④ $-\sin x + C$ ⑤ $\cos x + C$

27. $(\cos x)'$

- ① $-\sec^2 x$ ② $\cot^2 x$ ③ $\sec x \cos x$
 ④ $\cos x$ ⑤ $-\sin x$

28. $\int \sin x \, dx$

- ① $-\csc x + C$ ② $\tan x + C$ ③ $\sin x + C$
 ④ $\cos x + C$ ⑤ $-\cos x + C$

29. $\int -\sec^2 x \, dx$

- ① $-\tan x + C$ ② $-\sin x + C$ ③ $-\csc x + C$
 ④ $\sin x + C$ ⑤ $\sec x + C$

30. $(\csc x)'$

- ① $\sin x$ ② $-\csc x \cos x$ ③ $-\csc x \cot x$
 ④ $\csc^2 x$ ⑤ $\cot^2 x$

31. $\int -\cos x \, dx$

- ① $\cot x + C$ ② $-\cos x + C$ ③ $-\csc x + C$
 ④ $-\sin x + C$ ⑤ $\csc x + C$

32. $\int \csc^2 x \, dx$

- ① $-\csc x + C$ ② $-\cot x + C$ ③ $\sin x + C$
 ④ $\cos x + C$ ⑤ $\csc x + C$

33. $\int \cos x \, dx$

- ① $-\tan x + C$ ② $\tan x + C$ ③ $\cot x + C$
 ④ $\cos x + C$ ⑤ $\sin x + C$

34. $-(\sec x)'$

- ① $-\sin^2 x$ ② $-\csc x \cot x$ ③ $\cot^2 x$
 ④ $-\sec x \tan x$ ⑤ $\cos^2 x$

35. $(\sec x)'$

- ① $\csc^2 x$ ② $\sec x \tan x$ ③ $-\sec x \tan x$
 ④ $\cos^2 x$ ⑤ $-\csc x \cot x$

36. $\int \csc^2 x \, dx$

- ① $-\cot x + C$ ② $-\csc x + C$ ③ $\sec x + C$
 ④ $-\cos x + C$ ⑤ $\sin x + C$

37. $-(\cos x)'$

- ① $-\csc^2 x$ ② $-\csc x \tan x$ ③ $\cos x$
 ④ $-\csc x \cos x$ ⑤ $\sin x$

38. $(\cot x)'$

- ① $\sec x \cot x$ ② $-\cos x$ ③ $-\sin x$
 ④ $\sec^2 x$ ⑤ $-\csc^2 x$

39. $\int \cos x \, dx$

- ① $-\sin x + C$ ② $\sin x + C$ ③ $-\cot x + C$
 ④ $\csc x + C$ ⑤ $-\cos x + C$

40. $(\cos x)'$

- ① $-\sin^2 x$ ② $\cot^2 x$ ③ $\sin x$
 ④ $-\sin x$ ⑤ $\sec x \cot x$

41. $(\sec x)'$

- ① $\cos^2 x$ ② $\sec x \tan x$ ③ $-\csc^2 x$
 ④ $-\sec^2 x$ ⑤ $\cot^2 x$

42. $-(\cos x)'$

- ① $\sec x \cos x$ ② $-\sec^2 x$ ③ $\csc^2 x$
 ④ $\sin x$ ⑤ $-\sec x \tan x$

43. $\int -\csc^2 x \, dx$

- ① $-\cos x + C$ ② $-\csc x + C$ ③ $\sin x + C$
 ④ $\cot x + C$ ⑤ $-\tan x + C$

44. $\int -\sin x \, dx$

- ① $-\sec x + C$ ② $-\csc x + C$ ③ $-\sin x + C$
 ④ $\cos x + C$ ⑤ $-\cos x + C$

45. $\int \csc^2 x \, dx$

- ① $-\tan x + C$ ② $-\cot x + C$ ③ $\sec x + C$
 ④ $\tan x + C$ ⑤ $\csc x + C$

46. $-(\cot x)'$

- ① $\cos x$ ② $\sin x$ ③ $\sec^2 x$
 ④ $-\sin^2 x$ ⑤ $\csc^2 x$

47. $-(\cos x)'$

- ① $\sin x$ ② $-\sec^2 x$ ③ $\cos^2 x$
 ④ $\tan x$ ⑤ $\sec x \cos x$

48. $(\cot x)'$

- ① $\sec^2 x$ ② $-\csc x \sin x$ ③ $-\csc^2 x$
 ④ $\csc x \cot x$ ⑤ $-\sec^2 x$

49. $(\csc x)'$

- ① $-\cos x$ ② $-\csc^2 x$ ③ $-\csc x \sin x$
 ④ $-\csc x \cos x$ ⑤ $-\csc x \cot x$

50. $\int \sin x \, dx$

- ① $\cos x + C$ ② $-\cos x + C$ ③ $\tan x + C$
 ④ $\sec x + C$ ⑤ $\sin x + C$

51. $\int -\sec x \tan x \, dx$

- ① $\sec x + C$ ② $-\csc x + C$ ③ $-\cot x + C$
 ④ $-\sec x + C$ ⑤ $\cos x + C$

52. $-(\cot x)'$

- ① $-\sec^2 x$ ② $\csc^2 x$ ③ $\sec x \sin x$
 ④ $\cos x$ ⑤ $-\csc x \cot x$

53. $\int \csc^2 x \, dx$

- ① $-\tan x + C$ ② $-\cot x + C$ ③ $\cot x + C$
 ④ $\csc x + C$ ⑤ $-\sec x + C$

54. $\int \csc x \cot x \, dx$

- ① $\tan x + C$ ② $-\tan x + C$ ③ $\cot x + C$
 ④ $-\cot x + C$ ⑤ $-\csc x + C$

55. $\int \sin x \, dx$

- ① $\tan x + C$ ② $-\sec x + C$ ③ $-\tan x + C$
 ④ $-\cos x + C$ ⑤ $\cot x + C$

56. $-(\cot x)'$

- ① $-\sec^2 x$ ② $-\sec x \tan x$ ③ $\csc^2 x$
 ④ $\csc x \cot x$ ⑤ $\sin x$

57. $-(\sec x)'$

- ① $-\sec^2 x$ ② $\sin x$ ③ $\csc^2 x$
 ④ $-\csc x \cot x$ ⑤ $-\sec x \tan x$

58. $\int \csc x \cot x \, dx$

- ① $-\sin x + C$ ② $-\csc x + C$ ③ $\cos x + C$
 ④ $-\sec x + C$ ⑤ $-\tan x + C$

59. $-(\csc x)'$

- ① $\csc x \cot x$ ② $\cos^2 x$ ③ $-\sin^2 x$
 ④ $\sec x \tan x$ ⑤ $-\sec^2 x$

60. $-(\cos x)'$

- ① $\sin x$ ② $-\csc x \sin x$ ③ $-\csc x \cos x$
 ④ $-\sin^2 x$ ⑤ $\tan x$

61. $\int \csc x \cot x \, dx$

- ① $\cot x + C$ ② $\sin x + C$ ③ $-\csc x + C$
 ④ $\csc x + C$ ⑤ $-\cos x + C$

62. $-(\cot x)'$

- ① $\tan x$ ② $\sec x \cos x$ ③ $-\sin x$
 ④ $\csc^2 x$ ⑤ $\sin x$

63. $\int \sin x \, dx$

- ① $-\sec x + C$ ② $-\csc x + C$ ③ $\cos x + C$
 ④ $-\cos x + C$ ⑤ $\sin x + C$

64. $\int -\csc^2 x \, dx$

- ① $\cos x + C$ ② $\cot x + C$ ③ $\tan x + C$
 ④ $-\csc x + C$ ⑤ $-\cot x + C$

65. $-(\sin x)'$

- ① $\cos^2 x$ ② $-\cos x$ ③ $\sec x \sin x$
 ④ $\cot^2 x$ ⑤ $\sec x \cot x$

66. $(\cos x)'$

- ① $\cos x$ ② $-\sin x$ ③ $-\cos x$
 ④ $\csc^2 x$ ⑤ $\sec x \tan x$

67. $(\sec x)'$

- ① $\sec^2 x$ ② $\sec x \tan x$ ③ $-\csc x \tan x$
 ④ $-\sin x$ ⑤ $\cot^2 x$

68. $\int -\sec x \tan x \, dx$

- ① $\sin x + C$ ② $\cos x + C$ ③ $-\sec x + C$
 ④ $\tan x + C$ ⑤ $\sec x + C$

69. $\int \cos x \, dx$

- ① $-\sec x + C$ ② $-\tan x + C$ ③ $-\cos x + C$
 ④ $\tan x + C$ ⑤ $\sin x + C$

70. $-(\tan x)'$

- ① $-\sec^2 x$ ② $-\csc x \cot x$ ③ $\csc^2 x$
 ④ $-\csc x \tan x$ ⑤ $\csc x \cot x$

71. $\int \sin x \, dx$

- ① $-\csc x + C$ ② $-\cot x + C$ ③ $-\cos x + C$
 ④ $\sec x + C$ ⑤ $\csc x + C$

72. $(\cos x)'$

- ① $-\cos x$ ② $-\sin x$ ③ $-\sec^2 x$
 ④ $\sec x \tan x$ ⑤ $-\csc^2 x$

73. $-(\tan x)'$

- ① $\sec x \sin x$ ② $-\sec^2 x$ ③ $\cos^2 x$
 ④ $\tan x$ ⑤ $-\cos x$

74. $\int \csc x \cot x \, dx$

- ① $\tan x + C$ ② $\sec x + C$ ③ $-\csc x + C$
 ④ $\csc x + C$ ⑤ $-\cos x + C$

75. $-(\cos x)'$

- ① $\sec x \sin x$ ② $-\sec x \tan x$ ③ $\sin x$
 ④ $\sec x \cos x$ ⑤ $\sec x \cot x$

76. $-(\tan x)'$

- ① $-\sec x \tan x$ ② $\sin x$ ③ $-\sec^2 x$
 ④ $\cos x$ ⑤ $-\csc x \cot x$

77. $\int \sin x \, dx$

- ① $-\cos x + C$ ② $-\sec x + C$ ③ $\sin x + C$
 ④ $\tan x + C$ ⑤ $\csc x + C$

78. $\int \sec^2 x \, dx$

- ① $\tan x + C$ ② $\csc x + C$ ③ $-\tan x + C$
 ④ $-\csc x + C$ ⑤ $-\sin x + C$

79. $\int \csc^2 x \, dx$

- ① $-\cot x + C$ ② $-\csc x + C$ ③ $-\cos x + C$
 ④ $-\tan x + C$ ⑤ $-\sec x + C$

80. $\int \sin x \, dx$

- ① $-\tan x + C$ ② $-\cos x + C$ ③ $-\sec x + C$
 ④ $\sec x + C$ ⑤ $-\csc x + C$

81. $-(\sin x)'$

- ① $\sec x \tan x$ ② $-\cos x$ ③ $-\csc^2 x$
 ④ $-\csc x \sin x$ ⑤ $-\csc x \tan x$

82. $\int \csc x \cot x \, dx$

- ① $-\csc x + C$ ② $-\cos x + C$ ③ $-\sin x + C$
 ④ $\cos x + C$ ⑤ $-\sec x + C$

83. $\int -\sec^2 x \, dx$

- ① $-\csc x + C$ ② $-\tan x + C$ ③ $\tan x + C$
 ④ $-\cos x + C$ ⑤ $-\sec x + C$

84. $\int -\sec x \tan x \, dx$

- ① $-\sin x + C$ ② $\sin x + C$ ③ $-\cot x + C$
 ④ $-\sec x + C$ ⑤ $\tan x + C$

85. $(\cot x)'$

- ① $-\csc^2 x$ ② $-\cos x$ ③ $\sec^2 x$
 ④ $-\csc x \cot x$ ⑤ $-\sin x$

86. $-(\sec x)'$

- ① $-\csc x \cos x$ ② $-\sec x \tan x$ ③ $\sec x \tan x$
 ④ $-\sin x$ ⑤ $\csc^2 x$

87. $(\sec x)'$

- ① $\sec x \cot x$ ② $-\csc^2 x$ ③ $\sec x \tan x$
 ④ $\sin x$ ⑤ $\cot^2 x$

88. $(\tan x)'$

- ① $\sec x \sin x$ ② $-\sec x \tan x$ ③ $-\csc x \sin x$
 ④ $\sec^2 x$ ⑤ $-\sin^2 x$

89. $\int -\sec x \tan x \, dx$

- ① $-\sec x + C$ ② $\sec x + C$ ③ $\tan x + C$
 ④ $-\csc x + C$ ⑤ $-\sin x + C$

90. $-(\sec x)'$

- ① $-\sec x \tan x$ ② $-\sin x$ ③ $\cos^2 x$
 ④ $-\sin^2 x$ ⑤ $\sec x \sin x$

91. $-(\cos x)'$

- ① $\sec x \sin x$ ② $\cos x$ ③ $\sin x$
 ④ $-\csc x \cot x$ ⑤ $\sec x \cos x$

92. $(\csc x)'$

- ① $-\csc x \cot x$ ② $-\csc x \tan x$ ③ $-\cos x$
 ④ $\sec x \cos x$ ⑤ $-\csc x \cos x$

93. $\int \cos x \, dx$

- ① $\tan x + C$ ② $-\tan x + C$ ③ $\sin x + C$
 ④ $\cos x + C$ ⑤ $-\csc x + C$

94. $(\cot x)'$

- ① $-\cos x$ ② $\cot^2 x$ ③ $-\csc^2 x$
 ④ $-\csc x \cot x$ ⑤ $-\sin x$

95. $(\csc x)'$

- ① $\sec x \cot x$ ② $-\csc x \cot x$ ③ $\cos x$
 ④ $-\cos x$ ⑤ $\sec x \tan x$

96. $\int -\cos x \, dx$

- ① $\cot x + C$ ② $-\sin x + C$ ③ $-\csc x + C$
 ④ $-\sec x + C$ ⑤ $\sec x + C$

97. $(\tan x)'$

- ① $\sec x \cos x$ ② $\csc x \cot x$ ③ $\cot^2 x$
 ④ $\sec^2 x$ ⑤ $-\sin x$

98. $\int -\csc x \cot x \, dx$

- ① $-\cos x + C$ ② $\cos x + C$ ③ $\csc x + C$
 ④ $-\tan x + C$ ⑤ $-\sec x + C$

99. $-(\cot x)'$

- ① $-\sin^2 x$ ② $\sec x \sin x$ ③ $\csc^2 x$
 ④ $\cos^2 x$ ⑤ $\csc x \cot x$

100. $\int \sin x \, dx$

- ① $-\cos x + C$ ② $\csc x + C$ ③ $-\tan x + C$
 ④ $\cos x + C$ ⑤ $\tan x + C$

정답

1. ③ ⑤ ② ① ②
6. ③ ② ③ ④ ④
11. ④ ③ ⑤ ④ ④
16. ⑤ ③ ⑤ ④ ②
21. ① ④ ② ② ②
26. ② ⑤ ⑤ ① ③
31. ④ ② ⑤ ④ ②
36. ① ⑤ ⑤ ② ④
41. ② ④ ④ ④ ②
46. ⑤ ① ③ ⑤ ②
51. ④ ② ② ⑤ ④
56. ③ ⑤ ② ① ①
61. ③ ④ ④ ② ②
66. ② ② ③ ⑤ ①
71. ③ ② ② ③ ③
76. ③ ① ① ① ②
81. ② ① ② ④ ①
86. ② ③ ④ ① ①
91. ③ ① ③ ③ ②
96. ② ④ ③ ③ ①