The Weekly Rigor

No. 32 "A mathematician is a machine for turning coffee into theorems." January 31, 2015

101 Problems in Calculating Trigonometric Limits with Solutions

(Part 3)

ANSWERS

1. 1
2. 3
3. 3
4. $\frac{3}{4}$
5. 0
6. 0
7. 1
8. $\frac{-3}{4}$
9. $\frac{a}{b}$
10. $\frac{a}{b}$
11. k^2
12. 1
13. 3
14. 1
15. Does not exist
16. 0
17. 1
35. $\frac{3}{4}$
36. $\frac{a}{b}$
37. 1
38. –1
39. 1
40. 1
41. 1
42. 0
43. $\frac{a}{b}$
44. $\frac{a}{b}$
45. 1
46. 0
47. $\frac{a}{b}$
48. Does not exist
49. $\frac{8}{-3}$
50. $\frac{3}{2}$
51. $\frac{2}{3}$
69. $\frac{1}{4}$
70. 3
71. $\frac{1}{16}$
72. 2
73. $\frac{a}{b}$
74. $\frac{a}{b}$
75. 0
76. 0
77. –1
78. 1
79. 0
80. 0
81. 1
82. 0
83. 0
84. $\frac{1}{2}$
85. 1

18. 1

19. 0

20. 0

21. 0

22. 0

23. 2

24. $-\frac{25}{49}$

25. −2

26. $\frac{1}{2}$

27. $\frac{9}{2}$

28. 0

29. 0

30. 0

31. 1

32. 1

33. 3

34. 1

52. 1

53. 2

54. $\frac{9}{2}$

55. 2

56. $\frac{1}{2}$

57. 1

58. 2

59. 0

60. 0

61. 1

62. 0

63. 0

64. $\frac{1}{2}$

65. $\frac{2}{3}$

66. $\frac{1}{8}$

67. 7

68. sin(1)

86. $\frac{1}{2}$

87. $\frac{-3}{2}$

88. 0

89. 0

90. 2

91. 1

92. 3

93. 1

94. 8

95. 2

96. 2

97. 2

98. 1

99. 1

100. 1

101. 1