Answer List

1. 7.85
2. 39.1
3. $8x + C$
4. $x^4 - x^3 + C$
5. $x^3 - x^2 + 5x + C$
6. $-\dfrac{1}{2x^2} + C$
7. $-\dfrac{1}{5t^5} + C$
8. $\frac{1}{6}(x^3 - 5)^6 + C$
9. $\dfrac{65}{4}$
10. 6
11. $\frac{52}{3}$
12. $\dfrac{3a\sqrt[3]{a}}{4}$
13. D
14. D
15. 4
16. $\frac{1}{10}(x^2 - 1)^5 + C$
17. $-\frac{1}{27}(4 - 9x^2)^{3/2} + C$
18. $3\sin\dfrac{x}{3} + C$
19. $\sin(\ln x) + C$
20. $\dfrac{\sin^6 x}{6} + C$
21. $\dfrac{1}{2}(\ln 5x)^2 + C$
22. $-\dfrac{1}{5}e^{-5x} + C$
23. $-\frac{1}{3}\cos 3x + C$
24. $\dfrac{1}{5}\tan^{-1}\left(\dfrac{x}{5}\right) + C$
25. $9\sin^{-1}\dfrac{x}{2} + C$
26. A
27. 4.5
28. 14
29. 27
30. $5k$
31. 0
32. k
33. $5a + k$
34. $-\cos x$
35. 0, 1.5, 4.5, 6, −1.5, −3
36. 13, 10
37. 3, 4
38. 37
39. 185
40. 76.331
41. 0.727
42. 0.262
43. 0.882
44. $5x^4 - 3x + 7$
45. $\dfrac{1}{x^2}$
46. $\sqrt{2\sin^2 x - 7}$
47. $-\dfrac{5x}{2x^3 - 3}$
48. $4x^3(x^4 - 5)$
49. $-x\sqrt{\cos x}$
50. −3
51. −34
52. $\frac{1}{4}(F(16) - F(4))$
53. $\frac{1}{5}(F(30) - F(5))$
54. 0.5
55. 0.927
56. $4x^3\sqrt{(x^4)^2 - 1} - 7\sqrt{(7x)^2 - 1}$
57. $-\sin x(\cos x)^3 - \cos x(\sin x)^3$
58. $x^2 + \dfrac{2}{y} = C$
59. $e^x + e^y = C$
60. $y = \dfrac{1}{2}\ln\left(\dfrac{2}{2e^2 - x^2}\right)$
61. $y = 2x^3 - 4x^2 + 1$
62. $y = \frac{1}{5}x^5 + \frac{1}{2}x^2$
63. $f(x) = -\cos x + 2$
64. $f(x) = \frac{1}{5}e^{5x} - \frac{1}{5}$
65. $y = \sqrt{4e^{2x^2} - 4}$
66. D
67. A
68. $6, 4, 2, 0, -2, -4$, $y = -(x-2)^2 +$
69. graph, consider the slopes at $y =$
70. 39
71. $2(b + a)$
72. $\dfrac{5A}{4}$
73. 1.068
74. 0.239
75. 3.8
76. 29 million
77. $3x^2 - 4$
78. $2x^3 - 5x + 10$
79. A
80. $P(t) = 3t^2 + 5t - 8$
81. 1
82. 80 feet
83. $1\frac{1}{3}$ sec
84. $t \approx 3$
85. 64, 78
86. 128, 64
87. B
88. A
89. 12
90. $\frac{1}{2}$
91. $\ln 3$
92. $\dfrac{1}{2}$
93. C
94. $\frac{34}{3}$
95. $\dfrac{e^4}{2} - \dfrac{11}{6}$
96. $\sqrt{2} - 1$
97. $\dfrac{71}{6}$
98. 0.05
99. 14.078
100. 0.663
101. $\dfrac{125}{3}$ m^3
102. $\dfrac{2000}{3}$ units^3
103. 150π units^3
104. 24π
105. $\frac{808\pi}{15}$
106. $\frac{125\pi}{3}$
107. $\frac{3\pi}{2}$
108. $\frac{752\pi}{15}$ units^3
109. $\frac{594}{5}\pi$
110. 2π
111. D
112. $\frac{486\pi}{5}$
113. 27π
114. 45π
115. A
116. 23,807
117. 10761
118. 38.4 hours
119. 7.984, $49.673\pi = 156.052$, 25.265
120. 14.536, 41.464, $20 + 6t - \displaystyle\int_0^t \sqrt{t+3}\,dt$, 33
121. 11.792, 55.751 mL, $500 - (t+1)\ln(t+1) - 11t$, 34.100
122. $y = \ln(x^4 + e)$ D: all $\mathbb{R}$, R: $-\infty < y < \infty$
123. Left: $v(0.5) < 0$, $a = 14$ yes, 9.841, 11.057
124. 36, 1221.451, $\pi \displaystyle\int_{-1}^{5} [(-(x-2)^2 - k)^2 - (-9-k)^2]dx = 1221.451$
125. 257.6 gallons, yes since $R(4) = R(16)$, 10.647 gal/hr
126. 6, 7.5, 3, at $x = 5$, two
127. 10, 10.5, 1, 10 at $x = -4$, two at $x = 1, 5$