

Answers

- (1)  $k = 0$ ,  $k = \pm\sqrt{\frac{7}{3}}$ ; (2)  $k = \frac{1}{\ln(2)}$ ; (3)  $k = 0$ ,  $k = \frac{1}{4}$ ; (4)  $-\frac{1}{2} = -0.5$ ; (5)  $\frac{1}{3} \ln(10) \approx 0.768$
- (6)  $27 - (2 + e^{-3})^3 \approx 18.3875$ ; (7)  $\frac{1}{2} (e^3 - e) \approx 8.68$ ; (8)  $\frac{3}{2} (e - 1) \approx 2.58$ ; (9)  $-1 + \frac{2}{3+2e^{-3}} \approx -0.35$ ; (10) 4
- (11)  $12 (e^2 - e) \approx 56.05$ ; (12)  $2 (e^3 + 3)^{3/2} - 16 \approx 205.84$ ; (13) 104; (14) 2; (15) 3; (16) 36
- (17)  $-\frac{10}{3} \ln(2) \approx -2.31$ ; (18) 2; (19)  $4 \ln(3) \approx 4.39$ ; (20)  $3 (e - e^{-1}) \approx 7.05$ ; (21)  $-1 - \ln(3) \approx -2.099$
- (22)  $\frac{19}{4} - 2 \ln(2) \approx 3.36$ ; (23)  $\frac{-3^{-x}}{\ln(3)} + 3e^{4x} - \frac{5}{3e^{3x}} - e^3x + C$ ; (24)  $\frac{-5^{-3x}}{3 \ln(5)} + 2 \sin 3x + 2 \ln|3x + 5| + \pi^4 x + C$
- (25)  $\frac{15}{2} = 7.5$ ; (26)  $3 \ln\left(\frac{20}{7}\right) \approx 3.15$ ; (27)  $6 \ln\left(\frac{e^9 + 2}{3}\right) \approx 47.41$ ; (28)  $2 \ln\left(\frac{5}{3}\right) + 2 \approx 3.02$ ; (29)  $7 + 3 \ln(2) \approx 9.08$
- (30)  $2 \ln(8 + 3 \ln 2) \approx 4.62$ ; (31)  $\frac{-4^{-5x}}{5 \ln(4)} - 4 \tan 2x - 3 \ln|4 + 3x| + e^\pi x + C$ ; (32)  $\frac{61}{4416} \approx 0.014$
- (33)  $23 + 2 \ln(2) \approx 24.39$ ; (34)  $2e^3 + 1 \approx 41.17$ ; (35) 2; (36) 37; (37) 30; (38) 43; (39) 28; (40) 40
- (41)  $\frac{343}{6} \approx 57.1667$  square units; (42)  $\frac{23}{3} \approx 7.667$  square units; (43)  $\frac{2197}{6} \approx 366.1667$  square units
- (44)  $\frac{8}{3} \approx 2.667$  square units; (45) 4 square units; (46)  $\frac{2}{3} \approx 0.67$  square unit; (47)  $C.S. \approx \$21,111.11$
- (48)  $C.S. \approx \$83.33$ ; (49)  $\frac{9}{2} = 4.5$  square units; (50) 2 square units; (51)  $\frac{64}{3} \approx 21.33$  square units; (52)  $P.S. = \$540$
- (53)  $C.S. \approx \$2649.92$ ; (54)  $P.S. = \$9600$ ; (55)  $C.S. \approx \$386.29$ ; (56)  $P.S. \approx \$355.56$ ; (57)  $\frac{9}{2} = 4.5$  square units
- (58) 6 square units; (59)  $\frac{9}{2} = 4.5$  square units; (60)  $P.S. \approx \$2,766.67$ ; (61)  $C.S. \approx \$161.89$ ; (62)  $P.S. \approx \$17,839.58$
- (63)  $C.S. \approx \$83.33$ ; (64) 9 square units; (65)  $\frac{1}{2} = 0.5$  square unit; (66)  $\frac{1}{6} \approx 0.167$  square unit
- (67)  $\frac{5}{12} \approx 0.417$  square unit; (68)  $\frac{1}{6} \approx 0.167$  square unit; (69) 36 square units; (70)  $P.S. \approx \$4.69$
- (71)  $\frac{49}{3} \approx 16.33$  square units; (72)  $\frac{95}{12} \approx 7.92$  square units; (73)  $\frac{19}{3} \approx 6.33$  square units; (74)  $\frac{27}{4} = 6.75$  square units
- (75)  $\frac{317}{15} \approx 21.13$  square units; (76) 0; (77) 10; (78) 53; (79) 2; (80) 30; (81)  $\frac{49}{12} \approx 4.08$ ; (82)  $\frac{3}{14} \approx 0.21$
- (83)  $\frac{1}{12} (\ln 4)^2 \approx 0.16$ ; (84)  $2e - 2 \approx 3.44$ ; (85)  $\frac{3}{4} (\ln 2)^2 \approx 0.36$ ; (86)  $e^2 - e \approx 4.67$ ; (87)  $\frac{1}{2} [(\ln 3)^2 - (\ln 2)^2] \approx 0.36$
- (88)  $2 (\ln 2)^2 + e^2 - 1 \approx 7.35$ ; (89) 18 square units; (90)  $\frac{34}{3} \approx 11.3$  square units; (91)  $\frac{76}{3} \approx 25.3$  square units
- (92) 48 square units; (93) 30 square units; (94)  $C.S. = \$666.67$ ; (95)  $P.S. = \$1429.33$ ; (96)  $P.S. = \$166.67$
- (97)  $C.S. = \$5.79$ ; (98)  $C.S. = \$18$ ; (99)  $C.S. = \$341.33$ ,  $P.S. = \$64$ ; (100)  $C.S. = \$228.67$ ,  $P.S. = \$73.50$