

Answers

- (1) ≈ 0.215 ; (2) ≈ 26.737 ; (3) ≈ 8.351 ; (4) ≈ 13.583 ; (5) ≈ 9.370 ; (6) ≈ 16.359 ; (7) ≈ 22.593 ; (8) ≈ 3.253
- (9) ≈ 6.675 ; (10) ≈ 38.064 ; (11) ≈ 1.969 ; (12) ≈ 1.677 ; (13) ≈ 4.454 ; (14) ≈ 2.391 ; (15) ≈ 0.914
- (16) $e^{-3} - 1 \approx -1$; (17) $\frac{1}{3} \approx 0.33$; (18) $\frac{\pi^5}{32} \approx 9.56$; (19) $-3 - \frac{135\pi^4}{256} \approx -54.37$; (20) $6 - 3e^{\pi/8} \approx 1.56$
- (21) $\frac{1}{2} \ln\left(\frac{3}{4-\sqrt{2}}\right) \approx 0.074$; (22) $\frac{1}{4} \ln(2) \approx 0.17$; (23) $\frac{1}{3} (e^{-\pi^3} - 1) \approx -0.33$; (24) $\frac{1}{2} (e - 1) \approx 0.86$
- (25) $\frac{3}{8} + \frac{3\sqrt{3}}{4} - \frac{\sqrt{3}}{12} \pi \approx 1.2$; (26) $\frac{1}{9} \approx 0.11$; (27) $\frac{7}{9} \approx 0.78$; (28) $\frac{2}{9} (\sqrt{7} - 2) \approx 0.14$; (29) $\frac{5\sqrt{10}}{36} - \frac{1}{9} \approx 0.328$
- (30) $\frac{1}{3} (2 - \sqrt{2}) = 0.195$; (31) ≈ 3.6928 ; (32) ≈ 6.7732 ; (33) ≈ 5.3755 ; (34) $\frac{3}{2} e^\pi - \frac{3}{2} e^{\pi/3} - 1 \approx 29.4$
- (35) $\frac{7}{4} (\sqrt{3} - 1) \approx 1.28$; (36) $y = 2 + e^{2x^3-16}$; (37) Verification ; (38) $y = e^{1-\cos x}$; (39) $y = \frac{1}{1-\sin x}$; (40) $y = 4e^{x^3}$
- (41) $y = \frac{-1}{x^2+x-5}$; (42) $y = \frac{-1}{e^{x+2}+1}$; (43) $y = 4 \sin x + 3$; (44) $y = \frac{1}{3 \cos x - 2}$; (45) $y = \frac{1}{1-3 \tan x}$; (46) ≈ 64.49 years
- (47) $N(t) = 10 \left(\frac{4}{5}\right)^{\frac{t}{2}}$; (48) ≈ 12.25 g ; (49) year 2006 ; (50) 1 823 260 people ; (51) 60 millions of \$; (52) 4 years
- (53) 32 400 units ; (54) 20 480 dollars ; (55) 3 years ; (56) about 10.32 weeks ; (57) about 1.32 years
- (58) about 1.73 years ; (59) \$1250 ; (60) 579 632 people ; (61) about 49 998 units ; (62) 7000 units ; (63) 2048 units
- (64) 3 years ; (65) about 4 years ; (66) Verification ; (67) Verification ; (68) Verification ; (69) Verification
- (70) Verification ; (71) 1981 ; (72) $N(t) = \frac{180}{t+12}$; (73) ≈ 10.8 g ; (74) 174 500 ; (75) $\approx 860 708$ people ; (76) 6 years
- (77) about 4 years ; (78) 1200 units ; (79) 9 000 dollars ; (80) \$100 ; (81) $C = -\frac{1}{100}$, $k = \frac{1}{400}$
- (82) $C = 50$, $k = \frac{75}{4} = 18.75$; (83) $C = 40$, $k = 66$; (84) $C = 124$, $k = 6$; (85) $C = -\frac{1}{70}$, $k \approx -0.0069$
- (86) $C = 32$, $k = 9$; (87) $-\frac{1}{4} \cot(2x) - \frac{1}{6} x^2 + C$; (88) $\frac{2}{5} x^3 - 3 \cos(2x) + C$; (89) $-2 \csc(2x) - \frac{5}{3} \ln |\sin(2x)| + C$
- (90) $\frac{8}{3} \ln |\sec(3x)| + \frac{20}{9} \sec(3x) + C$; (91) $\frac{4}{3} \sin(3x) - \frac{5}{3} \ln |\sec(3x)| + C$; (92) $\frac{2}{3} \ln |\sin(3x)| - 3 \cos(3x) + C$
- (93) $y = \ln(3e^x + e^2 - 3)$; (94) $y = \sqrt{\frac{4}{3}x^3 + \frac{8}{3}}$; (95) $y = e^{2x^2-8}$; (96) $y = \left(\frac{3}{2}x^3 + \frac{51}{2}\right)^{2/3}$
- (97) $y = e^{4+2\sqrt{x}}$; (98) $y = 2x$; (99) $y = e^{x^2+x^3-12}$; (100) $y = \left(\frac{1}{3}e^{3x} + \frac{1}{3}\right)^2$