

MA 223 Even Answers

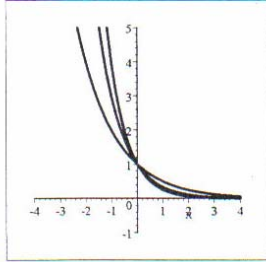
Section 5.1

22) $x = -3$

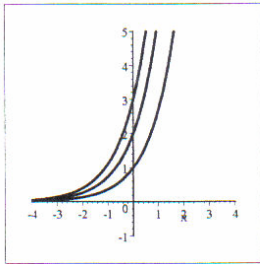
24) $x = 0, x = 3$

26) $x = 1$

28)



32)

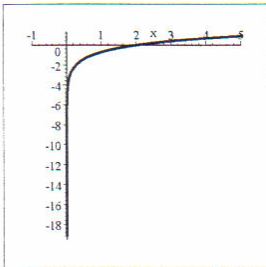


Section 5.2

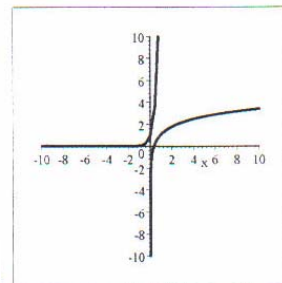
18) $\ln \frac{y^2 \sqrt{x}}{z^3}$

22) $\log x - \frac{1}{2} \log(x^2 + 1)$

32)



34)



Section 5.2 (con't)

36) $t = -\frac{\ln 2.7}{3} \approx -0.3311$

40) $t = \frac{\ln 9}{0.4} \approx 5.4931$

42) $t = \frac{\ln 3}{0.3} \approx 3.6620$

Section 5.3

2) \$26,496.48

10) \$37,518.26, \$12,518.26

12) 13.75%

18) approximately 2.8 yr.

22) 13.86% per year

28) \$15,000

34) investment A is higher (1.47746 to 1.47698)

Section 5.4

2) $3e^x$

4) $-2e^{-2x}$

20) $-\frac{e^{1/(2x)}}{2x^2}$

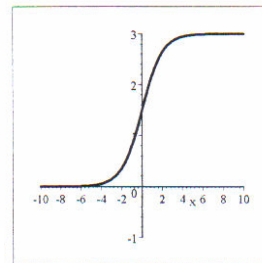
22) $9e^{-3x}(4 - e^{-3x})^2$

34) $y = -\frac{2}{e} + \frac{3}{e}$

36) increasing: (0, 2)

decreasing: $(-\infty, 0) \cup (2, \infty)$

48)



54) (a) 0.094%, 0.075%

(b) increasing at 0.151%/hr; decreasing at 0.021% per hr.

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Section 5.5

4) $\frac{2}{2x+1}$

6) $\frac{10}{t}$

10) $-\frac{3}{x}$

14) $-\frac{2}{x^2-1}$

48) $y = x - 2 + \ln 4$

50) increasing: $(0, e)$

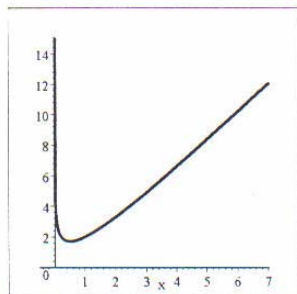
decreasing: (e, ∞)

54) $\left(e^{-\frac{3}{2}}, -\frac{3}{2}e^{-3} \right)$

56) absolute minimum: $g(e) = e$

absolute maximum: $g(5) = \frac{5}{\ln 5} \approx 3.107$

64)



Section 5.6

6) $\approx \$176,491$

8) 80 mg