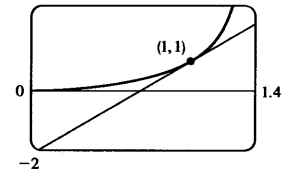


Exercises 2.5 ■ page 156

1. $4u(x+1)$, 48 3. $3u^2(1 - 1/x^2)$, 0
 5. $F'(x) = 10(x^2 + 4x + 6)^4(x + 2)$
 7. $G'(x) = 6(3x - 2)^9(5x^2 - x + 1)^{11}(85x^2 - 51x + 9)$
 9. $f'(t) = -16(2t^2 - 6t + 1)^{-9}(2t - 3)$
 11. $g'(x) = (2x - 7)/(2\sqrt{x^2 - 7x})$
 13. $h'(t) = \frac{3}{2}(t - 1/t)^{1/2}(1 + 1/t^2)$
 15. $F'(y) = 39(y - 6)^2/(y + 7)^4$
 17. $f'(z) = -\frac{2}{3}(2z - 1)^{-6/5}$
 19. $y' = 8(2x - 5)^3(8x^2 - 5)^{-4}(-4x^2 + 30x - 5)$
 21. $y' = 3 \sec^2 3x$ 23. $y' = -3x^2 \sin(x^3)$
 25. $y' = -12 \cos x \sin x (1 + \cos^2 x)^5$
 27. $y' = -\sin(\tan x) \sec^2 x$ 29. $y' = 0$
 31. $y' = -(1/3) \csc(x/3) \cot(x/3)$
 33. $y' = 3 \sin x \cos x (\sin x - \cos x)$
 35. $y' = -\cos(1/x)/x^2$ 37. $y' = 4(\cos 2x)/(1 - \sin 2x)^2$
 39. $y' = 6x^2 \tan(x^3) \sec^2(x^3)$ 41. $y' = 0$
 43. $y' = [1 + 1/(2\sqrt{x})]/(2\sqrt{x} + \sqrt{x})$
 45. $f'(x) = 9[x^3 + (2x - 1)^3]^2(9x^2 - 8x + 2)$
 47. $y' = \cos(\tan \sqrt{\sin x}) (\sec^2 \sqrt{\sin x}) [1/(2\sqrt{\sin x})] (\cos x)$
 49. $y = 0$ 51. $3x + 16y = 44$
 53. (a) $y = \pi x - \pi + 1$ (b) $y = x^3$



55. (a) $-1/(x^2\sqrt{1-x^2})$
 57. $((\pi/2) + 2n\pi, 3)$, $((3\pi/2) + 2n\pi, -1)$, n any integer
 59. 28 61. $v(t) = (5\pi/2) \cos(10\pi t)$ cm/s
 63. (a) $dB/dt = (7\pi/54) \cos(2\pi t/5.4)$ (b) 0.16
 65. (a) On $(0, \infty)$ (b) $G'(x) = h'(\sqrt{x})/(2\sqrt{x})$
 67. (a) $F'(x) = -\sin x f'(\cos x)$ (b) $G'(x) = -\sin(f(x))f'(x)$
 69. 0 75. $f'(x) = x/|x|$
 77. $h'(x) = |2x - 1| + 2x(2x - 1)/|2x - 1|$