

Math 103
Homework Solutions
Sections 9 & 10

9.1 (a) $3h + 7$; (b) 3; (c) 3

9.2 (a) $h^2 + 8h + 29$; (b) $h + 8$; (c) 8

9.3 (a) $-3h^2 - 4h - 5$; (b) $-3h - 4$; (c) -4

9.4 (a) 0; (b) 0

9.5 (a) 12; (d) $-\frac{1}{4}$

9.6 (b) $\frac{6}{\sqrt{3}}$; (c) 3

9.7 (a) 0.24; (d) $-\frac{1.3}{4}$

9.9 $y + 20 = 13(x + 3)$, or $y = 13x + 19$

9.10 $y - 0 = -3(x + 2)$, or $y = -3x - 6$

9.11 $y + 12 = -8(x - 2)$, or $y = -8x + 4$

9.12 (a) $R(13) - R(12) = \{1800(13) - 5(13^2)\} - \{1800(12) - 5(12^2)\} = 1675$;
(b) $R'(12) = 1800 - 10(12) = 1680$

9.13 (a) $R(11) - R(10) = \{1000(11) - 2(11^2)\} - \{1000(10) - 2(10^2)\} = 958$;
(b) $R'(10) = 1000 - 4(10) = 960$

9.14 $y - 5 = 2(x - 0)$, or $y = 2x + 5$

10.1 (a) $3x + 3h + 1$; (c) 3; (d) 3

10.2 (a) $4x^2 + 8xh + 4h^2 - 2$; (c) $8x + 4h$; (d) $8x$

10.3 (a) $-2x^2 - 4xh - 2h^2 + 3x + 3h - 1$; (c) $-4x - 2h + 3$; (d) $-4x + 3$

10.4 (a) $.06x^2$; (f) $-.24x + 30$

10.5 $(-\infty, 3)$

10.6 $(-\frac{5}{6}, \infty)$

10.7 (a) $(-3, -2) \cup (1, 3)$; (b) $x = -2, 1, 3$

10.8 (a) $(-3, 0) \cup (2, 6)$; (b) $x = -3, 0, 2, 6$

10.9 $h'(x) = 2x - 2$

10.10 $f'(x) = -4x + 3$