

Do your homework! Learning mathematics is an active process - you cannot succeed just by listening or by watching someone else do problems. Time (at least 2 hours outside of class for every in-class hour) spent on going over your notes, reading your textbook and working exercises will help you clarify ideas and methods and discover points you don't understand. Check your answers in the back of the book. While doing your work outside of class, make notes about anything that you are having trouble understanding. **Be ready to ask questions about homework (or anything else) at the beginning of class, but do not ask questions about problems you have not tried.** Work with a classmate or two. Talk and listen as well as write when you study. Additional problems, such as classroom handouts, will also be assigned frequently.

If you miss a class, go to the course website to learn the current assignment and whether any important announcements were made in class. To get to the website, go to my home page at www.montgomerycollege.edu/~jriseber/ and click the link for MA 181. You should add the MA 181 site to your list of bookmarks or favorites, and check the site periodically, especially if you are late or absent.

Please turn over for answers to some of the assigned even-numbered problems

Section	Page	Assignment
3.1 (a)	p. 190	3 – 9 odd, 13, 15, 16, 19, 21, 24, 27, 31, 37, 41
3.1 (b)		2, 11, 23, 25, 43, 44, 45, 46, 47, 48, 49, 53, 57 (Hint: Start with $f(x) = ax^2 + bx + c$), 58, 62
3.2 (a)	p. 198	1, 3, 13, 21, 27, 33, 39, 41, 45
(b)		5, 7, 11, 15, 23, 25, 31, 35, 37, 38
3.3	p. 210	1, 3, 5, 7, 11, 17, 21, 30 Note: For #30, read Example 3 on p. 203
3.4	p. 218	1 – 31 odd, 37 Note: For #31, read Example 3 on p. 217
3.5 (a)	p. 228	3, 5, 7, 9, 15, 19, 35, 37, 43, 45, 49, 54
(b)		1, 11, 13, 17, 18, 21, 23, 25, 27, 33, 55, 59, 64, 67
1.7	p. 79	1 – 9 odd, 13, 17, 25
3.5 (c)		69, 70, 71, 73
3.6 (a)	p. 238	1 – 15 odd, 21, 27, 47, 49
(b)		29 – 37 odd
3.7 (a)	p. 245	1 – 11 odd, 15, 16, 17, 19, 23, 25, 37
(b)		27 – 35 odd
3.8 (a)	p. 253	1, 5, 7, 9, 15, 17, 22, 33, 34
(b)		23, 24, 25, 29

Answers

<p>3.1/ 2. (a) The function value at $x = 0$ is 1 and the slope at $x = 0$ is 1. (b) $f(x) = e^x$ is an exponential function and $g(x) = x^e$ is a power function. $f'(x) = e^x$ and $g'(x) = ex^{e-1}$ (c) The exponential function grows more rapidly.</p>		<p>3.1/ 16. $y' = \frac{3}{2}x^{1/2} - \frac{1}{2}x^{-1/2} = \frac{3x-1}{2\sqrt{x}}$</p>
<p>3.1/ 24. $u' = \frac{2}{3}t^{-1/3} + 3t^{1/2} = \frac{2}{3\sqrt[3]{t}} + 3\sqrt{t}$</p>	<p>3.1/ 44. $(4/3, \infty)$</p>	<p>3.1/ 46. $\frac{-6 \pm \sqrt{24}}{6} = \frac{-3 \pm \sqrt{6}}{3}$</p>
<p>3.1/ 48. $y = 3x - 4$</p>	<p>3.1/ 58. $A = B = -1/2$ and $C = -3/4$</p>	<p>3.1/ 62. $y = 3x^2 - 2x + 7$</p>
<p>3.2/ 38. (a) $x^2 f'(x) + f(x)(2x)$ (b) $\frac{xf'(x) - 2f(x)}{x^3}$ (c) $\frac{f(x)(2x) - x^2 f'(x)}{[f(x)]^2}$ (d) $\frac{xf'(x) + 2x^2 f'(x) - 1}{2x^{3/2}}$</p>	<p>3.3/ 30. (a) $-\frac{54.4x^{-0.6}}{(1+4x^{0.4})^2}$ (b) At low levels of brightness, R is quite large and is quickly decreasing, that is, S is negative with large absolute value. This is to be expected; at low levels of brightness, the eye is more sensitive to slight changes than it is at higher levels of brightness.</p>	
<p>3.5/ 54. $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$</p>	<p>3.5/ 64. (a) 1 (b) $\frac{kae^{-kt}}{(1+ae^{-kt})^2}$ (c) $t \approx 7.4$ hours</p>	<p>3.5/ 70. $y = \frac{1}{2}x + \frac{1}{2}$</p>
<p>3.7/ 16. $\frac{-6}{9u^2 - 4}$</p>	<p>3.8/ 22. (a) $L_f = L_g = L_h = 1 - 2x$</p>	<p>3.8/ 24. (A) $dy = \frac{1}{(1+2s)^2} ds$ (b) $dy = -e^{-u}(\sin u + \cos u) du$</p>
<p>3.8/ 34. (a) $g(1.95) \approx -4.15$ $g(2.05) \approx -3.85$</p>		