MAT 202   Section 6.3 Part 2 Exercises
You may take these exercises from the written solutions OR just use these:

#s 47 – 52: Find the limit

47. $\lim\limits_{x\to 3^+}\left(x^2-9\right)$ 51. $\lim\limits_{x\to\infty}\left[\ln\left(x^2+1\right)-\ln\left(x+1\right)\right]$

53. Find the domain of $f(x)=\log\left(x^2-9\right)$.

55a. Find the domain of $f(x)=\sqrt{3-e^{2x}}$ 55b. Find f^{-1} and $D\left(f^{-1}\right)$

58. Try calculating $e^{\ln(300)}$ and $\ln\left(e^{300}\right)$ using a calculator. We know it's 300, but your calculator will choke on at least one of these.

#s 59 – 64 Find the inverse function for each of the following:

59. $y=\ln\left(x+3\right)$ 64. $y=\dfrac{e^x}{2e^x+1}$

66. On what interval is $y=2e^x-e^{-3x}$ concave downward?

68. Find an equation in point-slope form of the tangent line to $y=e^{-x}$ that is perpendicular to the line $2x-y=8$.