Errata in the Math 222 notes

Page 9, Among the list of standard integrals include
$\int \frac{1}{\sqrt{x^2+1}}\,dx \;=\; \ln(x+\sqrt{x^2+1}) + C\,.$
$\int \frac{1}{\sqrt{x^2-1}}\,dx \;=\; \ln(x+\sqrt{x^2-1}) + C\,,$ for $x > 1$. They are needed in some of the problems.

Page 10, line 15
$\int_{G(1)}^{G(2)} \frac{1}{u}\,\mathrm{d}u$ should be $\int_{G(0)}^{G(1)} \frac{1}{u}\,\mathrm{d}u$.

Page 14 3rd line (b.) "oscillation"

Page 19, Example 9.1. The denominator $x^2 - 1$ should be replaced by $x^2 - x$ thoughout this example.

Page 24, problem 52:
$\int_2^3 \sin\rho(\cos\,2\rho)^4\,d\rho$ can be done but I'd rather replace it by $\int_2^3 \sin 2\rho\,(\cos\,2\rho)^4\,d\rho$

Page 24, problem 55.
$\pi/2 \le \theta \le \pi/2$ should be $-\pi/2 \le \theta \le \pi/2$.

Page 25, problem 56 (i): $\cos(\arcsin(x))$

Page 25, problem 56 (iii). This is not technically a misprint, but very confusing notation. One should change the notation to $\sin(2\arctan a)$ (since α usually denotes an angle).

Page 28, problem 113. Part (b) should refer to (a) and not to (i).

page 32. In the displayed formula following (8) a term $\frac{f''(0)}{3!}x^3$ should be replaced with $\frac{f'''(0)}{3!}x^3$.

page 35. In the line preceding formula (9), replace $f''(3) = 6$ with $f'''(3) = 6$.

page 58. Problem 152. A *third* order polynomial ...

page 68. Second line: In the first double angle formula, $\cos\theta$ on the left hand side of the equation should be replaced with $\cos 2\theta$.

page 75, Problem 264, (g) is the same as (i).

page 96, problem 291. This equation should perhaps not be called logistic equation. The logistic equation in population growth models is of the form $y' = ay - by^2$.

page 96: problem 298 is not done with separation of variables.

page 100: Problem 357.
The expression $\frac{c}{\omega^2-\omega_0^2}$ should be changed to $\frac{c}{\omega_0^2-\omega^2}$.
page 107 (first line in 42.1) $A(2,1)$ should be changed to $A(1,2)$.

page 155, Answer to problem 211. Replace $(-1)^n \frac{t^{2n}}{(2n)!}$ with $(-1)^n \frac{t^{2n}}{n!}$.

page 156 Final answer to problem 294 incorrect.

page 157 Answers to problems 296 and 299 are incorrect.