APPENDIX B
Excel Commands

Operation or Function	Mathematical description	Excel command
Addition	11 + 12	=11 + 12
Subtraction	29 - 21	=29 – 21
Multiplication	30×15	=30 * 15
Division	44/12	=44/22
Example	$3 + \dfrac{4}{5 \times 2} - 3 \times 7$	=3 + 4/(5*2) – (3*7)
Square root	$\sqrt{5}$ or $\sqrt{7 \times (5/3)}$	=sqrt(5) or =sqrt(7*5/3)
Power	6^3 or $7^{0.5}$	=6^3 or 7^(0.5)
Pi	π	=pi()
Sum of numbers	$\sum a_i$	=sum(a$_i$) where a$_i$ can be a list of cells
Examples	A1+A2+A3+A4+A5	=sum(A1,A2,A3,A4,A5) or* =sum(A1:A5)
Mean value	$\dfrac{A1 + A2 + A3 + A4 + A5}{5}$	=average(A1:A5)
Standard deviation	$\sqrt{\dfrac{\sum (x_i - \bar{x})^2}{N-1}}$	=stdev(series of cells)
Sine	Sin (x) or Sin(2 πx)	=sin(x) or =sin(2*pi()*x)
Cosine	Cosine (x)	=cos(x)

*- This second option can be used when the Excel command references cells in the same column and adjacent rows, or in the same row and adjacent columns. You can also combine methods of defining cells. For example, if you wanted to find the sum of the contents of cells B3 through B28, B32 and B40 through B100 the Excel command you would use is: =sum(B3:B28,B32,B40:B100)

Some other useful hints:
- If in doubt, use parentheses to make sure things get calculated in the right order. For example, =3+5/2 results in 5.5. But, =(3+5)/2 results in 4. In the first case, it would be better to use =3+(5/2) in Excel.
- Pushing the Ctrl + ~ keys will display the formulas for the entire spreadsheet. Pressing these two keys again reverts back to the calculated numbers.