

COLLEGE OF STATEN ISLAND  
DEPARTMENT OF MATHEMATICS  
COURSE OUTLINE  
MTH 102 -- Mathematics for Liberal Arts

Fall 2017

TEXT: Mathematical Excursions 4<sup>th</sup> Edition by Aufmann/Lockwood/Nation/Clegg;  
Houghton Mifflin Company

<http://www.math.csi.cuny.edu/Courses>

REQUIRED: Scientific Calculator

| LESSON | SECTION             | TOPICS  | HOMEWORK PROBLEMS  |
|--------|---------------------|---|--|
| 1,2,3  | 9.1<br>pp. 496-504  | <b>FIRST DEGREE EQUATIONS</b><br>Solving First-Degree Equations<br>Applications<br>Literal Equations                                | P. 506/1,3,5,9,11,17,19,25<br>Pp.507-508/42,43,47,48,51,52,57a,b,59<br>Pp. 508-509/69,71,73,75,77,79,88,89 |
| 4,5    | 9.2<br>pp. 509-517  | <b>RATE, RATIO &amp; PROPORTION</b><br>Rates, ratios<br>Proportions   | Pp. 518-520/8,9,10,14,17,18,21, 27-31<br>P. 521/35,43,46-51  |
| 6,7,8  | 9.3<br>pp. 522-533  | <b>PERCENTS</b><br>Percents<br>Percent Problems: The Proportion Method, The Basic Percent Equation<br>Percent Increase and Decrease | P. 535/7,8,9,13,14,16<br>Pp. 535-536/18,20,22<br>P. 536/24,26,27,28  |
| 9*     |                     | REVIEW SESSION (Chapter 9)  | Pp. 550-552/1,3,4,9,10,11,15,16, 18,21,23,25,29  |
| 10,11  | 7.3<br>pp. 376-387  | <b>PERIMETER &amp; AREA of PLANE FIGURES</b><br>Perimeter of Plane Geometric Figures<br>Areas of Plane Geometric Figures            | Pp. 389-390/7,9,11,17,18,19,22,23,25,29,31,33, 35,36,39<br>P. 390/29,31,33,35,36,39                        |
| 12     | 7.5<br>pp.406-412   | Volume  | P. 414/1-6,13-23 odd only  |
| 13,14* |                     | REVIEW FOR TEST 1   | <a href="http://www.math.csi.cuny.edu/Courses">http://www.math.csi.cuny.edu/Courses</a>                    |
| 15     |                     | TEST 1  |  |
| 16,17  | 12.1<br>pp. 688-692 | <b>THE COUNTING PRINCIPLE</b><br>Counting by Making a List, Table, Tree Diagram<br>The Counting Principle                           | P. 695/1,3,5,7,9,10,15,17,19,21,23,25, 26  |
| 18,19  | 12.2<br>pp. 696-703 | <b>PERMUTATIONS and COMBINATIONS</b><br>$n$ ' Factorial, Permutation<br>Combination   | Pp. 705-706/3,5,6,13,15,45-48,54<br>Pp. 705-706/<br>21,23,25,27,29,37,39,43,49,50,51,56, 65-70             |

| LESSON          | SECTION             | TOPICS   | HOMEWORK PROBLEMS   |
|-----------------|---------------------|--|---|
| 20,21,22        | 12.3<br>pp. 707-714 | <b>PROBABILITY and ODDS</b><br>Introduction to Probability<br>Applications to Genetics<br>Calculating Odds           | Pp. 715-<br>717/1,3,7,9,13,23,24,27,31,35-47 odd<br>P. 716/53-56<br>P. 717/59,60,67,69,71,74,77,79,80       |
| 23              | 12.4<br>pp. 718-729 | <b>ADDITION and COMPLEMENT RULES</b><br>Addition rules for Probabilities<br>The Complement of an Event               | Pp. 725-<br>726/3,5,7,9,11,21,23,25,27,29,31<br>32,33,39,40,43,45   |
| 24*             |                     | REVIEW SESSION ( Chapter 12)   | Pp. 746-748/4,5,11-18,20-22,27-30<br>33,34,37-39,41-44,47,48,52,53  |
| 25,26           | 13.1<br>pp. 752-757 | <b>MEASURES of CENTRAL TENDENCY</b><br>Mean, Median, Mode<br>The Weighted Mean                                       | P. 759/1,3,5,6,11,13,15<br>Pp. 759-761/17,19,21,23,27,29,31,33  |
| 27,28           | 13.2<br>pp. 762-767 | <b>MEASURES of DISPERSION</b><br>The Range, The Standard Deviation, The Variance                                     | P. 769/1-5,7,9,13-16  |
| 29,30           | 13.4<br>pp. 781-785 | <b>NORMAL DISTRIBUTIONS</b><br>Frequency Distributions and Histograms<br>Normal Distributions and the Empirical Rule | P. 791/1,2<br>P. 792/3,5,6,7,8  |
| 31,32*          |                     | REVIEW SESSION (Chapter 13)<br>REVIEW for TEST 2   | P. 808/1,2,3,6,7<br><a href="http://www.math.csi.cuny.edu/Courses">http://www.math.csi.cuny.edu/Courses</a> |
| 33              |                     | <b>TEST 2</b>  |   |
| 34,35           | 11.1<br>pp. 620-626 | <b>SIMPLE INTEREST</b><br>Simple Interest, Future Value and Maturity Value   | Pp. 627-628/5,7,9,11,21,25,27,31,34<br>36,37,39,40,43-47  |
| 36,37,38,<br>39 | 11.2<br>pp. 628-640 | <b>COMPOUND INTEREST</b><br>Compound Interest, Present Value, Inflation, Effective Interest Rate                     | Pp. 642-<br>643/1,3,5,7,15,18,27,31,35,40,45,<br>51,53,55,57,59,63-67                                       |
| 40*             |                     | REVIEW SESSION (Chapter 11)  | Pp. 683-684/1-12  |
| 41-42*          |                     | REVIEW for <b>FINAL</b>  |   |

\*Indicates Review Sessions