ALGEBRA FOR CALCULUS Stretch II Topics List for Exam IV

**Section 4.5Rational Functions**

* Be able to identify the vertical and horizontal asymptotes of a rational function (#1 – 20 on p. 357)
* Be able to sktech a rational function (#33, 35, 39 -51odd, 55,57,61,65,67 on p. 358) label x -and y -

intercepts, vertical and horizontal asymptotes, and domain.

**Section 4.6B Rational Inequalities (Polynomial inequalites were in Stretch I 4.6A)**

* Be able to solve a rational inequality using a sign chart. You need to show your sign chart to receive points for the problem. (#53 – 63 odd, 69 on pp. 369-70)

**Section 7.1/1.1 The Parabola, The Distance Formula, The Midpoint Formula**

Be able to:

* Find the distance or midpoint between any pair of points, providing an *exact answer* and also an approximation to three decimal places. (p. 72 DF: 41 - 51 odd, midpoint 61 -69 odd)
* Identify an equation determining a parabola.
* Find the equation of a parabola given its focus and directrix (like #15 – 20 on p. 579).
* Given an equation of a parabola, complete the square, then name the vertex, the focus, and the directrix (like #21 – 30 on p. 532).
* Solve an applied problem using parabolas (like #31 – 34 on p. 579).

**Section 7.2/1.1 The Ellipse, The Circle**

Be able to:

* Identify an equation determining a circle.
* Identify an equation determining an ellipse.
* Given an equation of a circle, complete the square if necessary, and then name center and radius.
* (like #7 – 18 on p. 588).
* Given an equation of an ellipse, complete the square if necessary, then name the center, the vertices, and the foci then sketch an accurate graph (like 37 – 46 on p. 589).
* Solve applied problems using circles or ellipses (like #51, 52, 54 on pp. 589-590).
* Circles on p 73, # 73 – 81 odd.
* Find vertices and the Foci of the ellipse given equation ( like #23 -30 on pp. 588-589).
* Find the equation of the ellipse satisfying certain conditions like #31 – 36 on p, 589).
* Review Ellipse HW on p. 588, 7 – 17 odd, 23 – 45 odd, 51, 54
* Review Circle HW 1.1 on p. 73, 73 – 81 odd.

**Section 7.3 The Hyperbola**

Be able to:

* Identify an equation determining a hyperbola.
* Given an equation of a hyperbola, complete the square if necessary, then name center, the vertices, and the foci then sketch an accurate graph (like # 11 - 34 on pp. 600-601).
* Review Hyperbola HW on p. 600, 1 – 33 odd.

**MyLabsPlus has a set of practice HW problems (under the “homework” tab) and a practice exam (under the “Test and Quizzes” tab). The more problems you do, the better prepared you will be! Also, working through the MLP practice exam will simulate the time pressure of the real thing. Study hard!**