Three Rivers Community College
Intermediate Algebra -- MAT 137 -- Self-Paced
Spring 2012

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Text: Intermediate Algebra, 4th ed. by Jay Lehmann

MML Course Code: hawes49056

Credit: 3 credit hours

Course Description: This course continues the development of algebraic skills and concepts. The topics include: linear equations, functions and graphs, applications of systems of equations, inequalities, rational expression and equations, operations on radicals and rational exponents, quadratic equations, exponential and logarithmic functions.

Prerequisite: Successful completion of MAT095, appropriate placement score, or equivalent.

Course Requirements

Attendance: IF you are NOT attending class on a given week, I expect an e-mail from you, before class begins on Tuesday, 5:30 p.m:

- Stating that you are working from home
- Are you in accordance with the Goal Sheet? If not, the reason and your plan of action to rectify the issue.
- Check your e-mail regularly for correspondence from me
- If you change your e-mail address, update the MyMathLab site
- Check Announcement page on MyMathLab regularly

Grading:

- Homework 10%
- Quizzes 25%
- Tests 40%
- Final Exam 25%

Final Exam is NOT on the computer

Bring to *Every* Class OR have in work area at home:
- Notebook
- 2 pencils, pen
- highlighter
- Calculator

Supplementary Tools & Resources:
- MyMathLab software
- Learning Center/TASC (1st floor, C-Wing, near library)
- Study Plan on MyMathLab (while you work, it records topics you need practice in)

Notebook Requirement:
- Label sections
- Take note if you watch video or "help me solve this"
- Write problem from computer in pen
- Do work in pencil
- Enter your answer into the computer. If you get a problem incorrect, you can choose "similar example" to get another problem with a chance to replace incorrect result with correct result. ☺
- *highlight* what you might want to put on 4x6 index card for final exam
- *highlight* what you may need extra practice in for reviewing
- Show all your steps so *someone else* can follow them and you can study from them. Your final exam will be graded based on steps AND the correct answer.

Final Exam:

- **All coursework must be completed before final exam date**
- In class, on paper, **5/8/12**
- Will contain problem(s) from the Trig Packet
- Allowed - calculator
- Allowed - 4x6 index card with formulas, no exact number examples
  - As you do coursework, highlight what you might want to put on an index card so you can easily see & transfer when you're doing review for final exam

Stay up-to-date according to Goal Sheet

**ALL coursework must be completed by the final exam date:
May 8, 2012**

MAT137 Course Outcomes

1. Factor an algebraic expression using a combination of greatest common factor, difference of two squares, sum or difference of two cubes, and/or trinomial factoring .
2. Use factoring procedures to solve equations and problems.
3. Solve compound linear inequalities of the form C<ax + b <d. Express answer algebraically, graphically, and using interval notation.
4. Isolate a particular variable in a literal equation.
5. Use quadratic formula to find exact values of a quadratic equation with irrational or imaginary solutions. Approximate the irrational solutions.
6. Solve basic exponential and logarithmic equations.
7. Evaluate basic logarithmic expressions, and convert between logarithmic and exponential form.
8. Solve an exponential equation that requires the use of logarithms.
9. Graph a quadratic function by finding the vertex, x- and y-intercepts.
10. Relate the discriminant in the quadratic formula to the graph of a parabola.
11. Graph a basic exponential or logarithmic function.
12. Know the graphical relationship between exponential and logarithmic functions.
13. Express the slope as a rate of change using appropriate units.
14. Write the equation of a linear function given data. Use functional notation in the answer.
15. Write the equation of an exponential function given data. Use functional notation in the answer.
16. Solve a 2 x 2 and 3 x 3 system of equations.
17. State the domain of linear, quadratic, exponential and logarithmic functions.
18. Evaluate functions using numerical and algebraic values.
19. Identify domain (inputs) and range (outputs) graphically for basic functions.
20. Interpret functional notation in a variety of application problems.
21. Determine if a relation is a function by looking at a graph, table, or equation.
22. Solve a rational equation and check for extraneous solutions.
23. Solve a radical equation that produces a second-degree equation. Check for extraneous solutions.

24. Know and apply the rules of integer and fractional exponents
25. Add, subtract, multiply, divide rational expressions. Reduce the answers.
26. Simplify a complex fraction.
27. Know the meaning of rational exponents and their relationship to radical form.
28. Simplify radical expressions with emphasis on cube roots and lower.
29. Rewrite radical expressions by rationalizing numerator or denominator.
30. Add, subtract, multiply, and divide radical expressions.
31. Solve application problems involving the Pythagorean Theorem.
32. Given a quadratic model, find and interpret the maximum or minimum values, and the intercepts.
33. Solve an application problem involving quadratic equations.
34. Solve an application problem that involves rational expressions.
35. Solve an application problem involving a given exponential or logarithmic model.
36. Solve applications involving linear systems.
37. Find the six trigonometric values of an acute angle
38. Solve triangles using right triangle trig, distinguish between the angle of depression and elevation.
Solve applied problems using right triangle trigonometry

Class Cancellation

MyMathLab Announcement
Sign on Classroom Door