

# The Skills of Algebra II, Semester 1

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1. Real number operations	
2. Evaluating algebraic expressions	
3. Solving linear equations	
4. Convert from a graph to a table of values and back	
5. Find points on a line from its equation	
6. Graph a line from its equation	
7. Find the equation of a line given two points	
8. Find the equation of a line given its slope and a point	
9. Graph linear inequalities (dependent on skill 6)	
10. Solve a system of two linear equations	
11. Test a point for satisfaction of a system of linear inequalities	
12. Maximize a linear quantity against linear constraints	
13. Adding Matrices	
14. Subtracting Matrices	
15. Multiplying a Matrix by a Scalar	

16. Multiplying Matrices	
17. Finding the determinant of a 2x2 matrix	
18. Finding the determinant of a 3x3 matrix	
19. Finding the inverse of a matrix	
20. Solving a matrix equation	
21. Adding polynomials	
22. Subtracting polynomials	
23. Multiplying polynomials	
24. Dividing polynomials	
25. Factoring common monomials	
26. Factoring a difference of squares	
27. Factoring perfect squares	
28. Factoring factorable trinomials	
29. Testing factors with the factor theorem	

# Grading System

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## Skills

Each skill will be as separate from the other skills as possible. Except in a few cases, you will NOT need mastery of prior skills to master new skills. Occasionally there may be a “combined” skill that is testing your ability to use multiple skills at once. Skill 9 is the only one of these in semester 1.

## Levels of Problems

There are three levels of problem difficulty that you will see on skills tests:

- **Pretest** problems will appear before we have discussed a skill in class. Your responses to these problems will be used by me to judge the skill level of the class as a whole. Your responses will be disconnected from you entirely, and they will not count towards your grade in any way. It will be helpful to me if you try your best on them, but they will not affect your grade.
- **Intro** problems will appear after we have discussed a skill in class. Intro problems will involve simple cases and situations.
- **Master** problems will involve more complex cases and situations. Even though they will be more complex, they will still avoid any of the other skills on the checklist when possible. Master problems will only appear on your skills test after you have completed an intro problem perfectly.

## Scoring

You will receive a score between 0 (blank) and 4 (perfect) for each intro problem. Once you have perfected an intro problem for a skill, you will “unlock” the master problems for the skill. Your score on master problems starts at 4 (you already got 4 from the intro problem). Solving a master problem perfectly will earn you a 5 and the designation of master for that skill. You will never have to complete a skill you have mastered again until the final exam.

## Grading

Each skill will be graded on a scale of 0 (blank) to 5 (mastery). A 4, then, would be like 80%, and a 3 would be 60%.

To pass the class, you must earn a 75% average over all of the skills we have covered, with at least a 3 for every skill.

The final exam will cover all of the skills, and count for 10% of your skill average.