Geometry A Semester Exam Study Guide

* The exam consists of 45 multiple choice questions and two questions where you are asked to supply the missing reasons in algebraic proofs.
* You may not do corrections after you complete your final.
* You should do the review for the final in Connexus. You would also benefit from looking over your tests and making sure you can do the relevant topics from the tests.
* You may use any notes I posted on the Message Board (formulas, properties spreadsheet, etc.) as well as any notes you have taken. You may not use outside resources.
* You should have a calculator, your notes, scrap paper, grid paper (maybe make the axes ahead of time), and perhaps a ruler, compass, and protractor nearby.
* If you do the problems suggested in Unit 8, lesson 1 and you understand the problems from your tests, you should do great.

Here are the topics that will be covered on the semester exam:

1. Use a net to determine the sides of a box
2. Find the midpoint between two points
3. Find the distance between two points
4. Given a conditional, write the inverse, contrapositive or converse
5. Use properties of equality to justify statements.
6. Identify and use properties of angles created by || lines cut by a transversal
7. Recognize constructions, given a picture of one.
8. Prove triangles congruent
9. Identify missing pieces needed to prove triangles congruent by a specific postulate (SAS, SSS, ASA, AAS or HL)
10. Write congruence statements
11. Order sides/angles of a triangle.
12. Solve for x, given algebraic expressions and supplementary or vertical angles or segment lengths or triangle side lengths.
13. Determine if lines are parallel, perpendicular or neither when given their slopes.
14. Write the equation of a line in slope-intercept form when given a point and the slope.
15. Identify horizontal and vertical lines by their equations.
16. Find the diameter of circle, given the circumference or the circumference, given the diameter.
17. Find the area of an irregular figure.
18. Identify a counterexample to a conditional.
19. Write a biconditional.
20. Find the missing angles in an isosceles triangle.
21. Identify the common angle in overlapping triangles.
22. Find the length of the midsegment of a triangle given the side lengths.
23. Match points of concurrency to the lines that create it (ie circumcenter is formed by perpendicular bisectors).
24. Given a rule, identify a translation, reflection, rotation.
25. Find the degrees of a rotation.
26. Identify the number of lines of symmetry has.
27. Identify whether a letter has rotational symmetry.
28. Determine whether a dilation is a reduction or enlargement and give the scale factor.
29. Determine what kind of transformation a figure has.
30. Give reasons in Algebraic proofs.

Vocabulary that you should know for the exam:

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| **Unit** | **Term** |
| 2 | adjacent |
| 2 | collinear |
| 2 | complementary |
| 2 | coplanar |
| 2 | linear pair |
| 2 | midpoint |
| 2 | net |
| 2 | supplementary |
| 2 | vertical |
| 3 | conclusion |
| 3 | conditional |
| 3 | contrapositive |
| 3 | converse |
| 3 | definition |
| 3 | hypothesis |
| 3 | inverse |
| 4 | alternate exterior angles |
| 4 | alternate interior angles |
| 4 | corresponding angles |
| 4 | same-side interior angles |
| 7 | altitude |
| 7 | angle bisector |
| 7 | centroid |
| 7 | circumcenter |
| 7 | equidistant |
| 7 | incenter |
| 7 | median |
| 7 | midsegment |
| 7 | perpendicular bisector |
| 7 | point of concurrency |
|  | diagonal of a rectangle |

Specific Hints for Hard Questions

#4: The diagonal of a rectangle is a segment across the middle. Find the distance of BD or AC.