Advanced Geometry
Semester 1 Exam Information & Study Guide

THIS PACKET IS DUE ON EXAM DAY. YOU MUST TURN IT IN TO THE PREFECT BEFORE THE EXAM BEGINS. LATE PAPERS WILL NOT BE ACCEPTED. DO NOT HAND IT INTO THE OFFICE.

Details: Period 1 115
Period 2 115
Period 5 110

The number of items on the exam may change without notice, however it would be similar. Scoring may also change, but will remain similar.

Format:

I. Scantron
   a. 20 Always, Sometimes, Never (40 points)
   b. 25 Multiple Choice (50 points)
   c. 6 Are these Δs $\cong$? What is the reason/postulate? (12 points)
   d. 5 Most descriptive name of the quadrilateral (10 points)

II. Write out your answers
   a. 3 Fill in the reasons in the proof (18 points)
   b. 2 Complete whole proof (20 points)
   c. 3-5 Extra credit (6-10 points)

Major Content: Covers chapters 1 – 5 of our text, including:

- Logic: conditional, converse, inverse, contrapositive, $\cap$ & $\cup$
- Degrees, minutes, seconds
- Perpendicularity
- Complementary and supplementary angles
- Addition, subtraction, multiplication, and division properties
- Transitive and substitution properties
- Congruent triangles and CPCTC
- Equidistance theorem
- Parallel and perpendicular lines and slope
- Parallel lines with proof
- Quadrilaterals and their properties (parallelogram, square, rectangle, rhombus, kite, trapezoid, and isosceles trapezoid)
- Proving parallelograms
- Indirect proof
- Proving quadrilaterals

Ways to study for the exam

- Eat and sleep well.
- The one best thing to do, outside of what is assigned and the classwork, is to take ALL of your old quizzes and tests, take a clean sheet of paper, and re-work every one of the problems. Just looking at them is NOT going to help you know if you really remember how to do the problems. Bring questions you might have to review.
- Complete the attached "Write your own exam" outline. This will force you to look back at each section of the book that we have covered and do some of those problems.
- Study with a friend. Ask each other questions.
- Review the topic outline. Know what each refers to and what might be asked.

For each topic listed, Copy and complete a problem below.

conditional, converse, inverse, contrapositive	**$\cap$ & $\cup$**
Degrees, minutes, seconds	**Perpendicularity**

Complementary and supplementary angles	**Addition, subtraction, multiplication, and division properties**
Transitive and substitution properties	**Congruent triangles and CPCTC**

Equidistance theorem	**Parallel and perpendicular lines and slope**
Parallel lines with proof	**Quadrilaterals and their properties (parallelogram, square, rectangle, rhombus, kite, trapezoid, and isosceles trapezoid)**

Proving parallelograms	**Indirect proof**

Proving quadrilaterals

Complete the following proof by selecting the *best* option for the missing statement or reason.

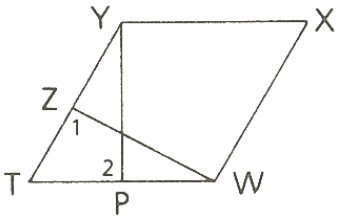
Given: YTWX is a ▱.

$\overline{YP} \perp \overline{TW}$

$\overline{ZW} \perp \overline{TY}$

$\overline{TP} \cong \overline{TZ}$

Concl: TWXY is a rhombus.



Statements	Reasons	
YTWX is a ▱, $\overline{YP} \perp \overline{TW}$ & $\overline{ZW} \perp \overline{TY}$	Given	
∠1 & ∠2 are right ∠s	1.	A. ⊥ ⇒ right ∠s B. Right are ≅ C. ▱ ⇒ opposite ∠s are ≅ D. ▱ ⇒ opposite sides are ≅ E. None of the above
∠1 ≅ ∠2	2.	A. ⊥ ⇒ right ∠s B. Right are ≅ C. ▱ ⇒ opposite ∠s are ≅ D. ▱ ⇒ opposite sides are ≅ E. None of the above
$\overline{TP} \cong \overline{TZ}$	Given	
∠T ≅ ∠T	3.	A. Supplements of congruent angles are congruent B. Transitive C. Substitution D. Reflective E. None of these
4. A. ΔYPT ≅ ΔWZT B. ΔYPT ≅ ΔTWZ C. ΔYPT ≅ ΔWTZ D. None of these	5.	A. SSS B. SAS C. ASA D. HL E. CPCTC
$\overline{TW} \cong \overline{YT}$	6.	A. SSS B. SAS C. ASA D. HL E. CPCTC
TWXY is a rhombus.	7.	A. If ▱ contains a pair of consecutive sides that are ≅, then it is a rhombus B. If either diagonal of a ▱ bisects two angles of the ▱, then it is a rhombus C. If the diagonals of a quadrilateral are ⊥ bis of each other, then the quadrilateral is a rhombus D. If two disjoint pairs of consecutive sides of a quadrilateral are ≅, then it is a rhombus E. None of the above