

Name:

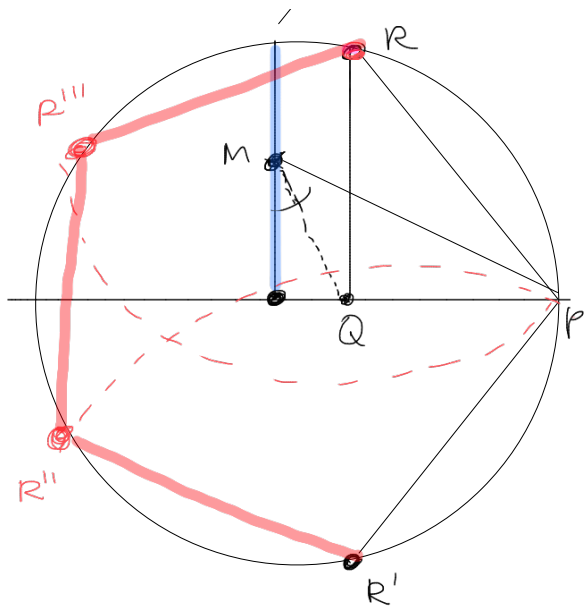
Math 484

Journey Through Genius - Chapter 1 - Reading Check

1. How do we know the Babylonians were aware of some version of the Pythagorean Theorem?
2. Roughly how old is the Plimpton-322 tablet?
3. Consider Thales, Pythagoras and Hippocrates. Where and when did they live?
4. Order the following sets of numbers: Real, constructible, transcendental, algebraic.
5. How many lunes are quadrable?
6. What great ancient civilization used a base 60 number system?
7. What is our first great theorem and to whom do we attribute the proof?
8. To what ancient civilization do we celebrate for the way they used the simple and elementary as a foundation for the complex and intricate?
9. Why do you think the Greeks regarded quadrature so highly?
10. Give a rough argument that the circle cannot be squared.

Reading Check - Chapter 2

1. What is our 2nd great theorem? Give a description in words and pictures of the proof.
2. Does the Pythagorean Theorem depend on Euclid's Parallel Postulate, i.e., is it true in non-Euclidean Geometry?
3. Is the Euclidean parallel postulate (number 5) assumed in the proof that the sum of the interior angles of a triangle equals two right angles? What does this suggest?
4. Who proved that Euclid's postulate five (the parallel postulate) cannot be proved from postulates I-IV?
5. State a theorem that is true in non-Euclidean geometry that is not true in Euclidean geometry.



Construct Pentagon

1. Raise \perp up from center
2. Take midpoint, M
3. Connect M to P
4. Bisect Angle, continue get Q
5. Raise \perp from Q, hit R on circle
6. PR = side of inscribed Pentagon