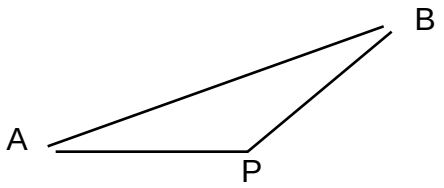
Tear off this page and turn it in Friday. It will count as a BIG HOMEWORK ASSIGNMENT. The usual HOMEWORK rules apply (this is not a "take-home exam")

Math 120R-16,18 **Fourth Exam HOMEWORK** Fall 2009

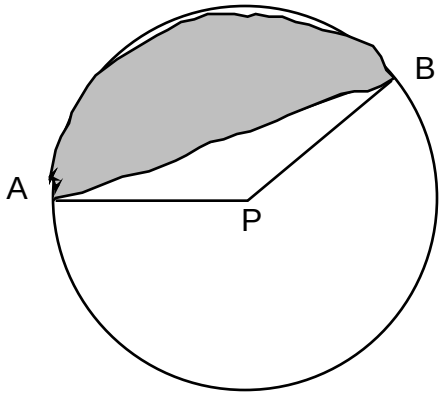
21. In the triangle shown, the angle APB is θ. The sides AP and PB each have length r. Draw a perpendicular from P to AB.

(a) What is the length of the perpendicular from P to AB?

(b) What is the length of the side AB?



22. EXACT. The point P is at the center of the circle. The radian measure of the central angle APB is θ. The radius of the circle is r.



(a) Using the standard formula for the area of a triangle $\left(\text{area} = (1/2)(\text{base})(\text{height})\right)$, find the area of the small triangle APB. Your answer should be expressed in terms of r and θ.

(b). Find the area of the region between the line AB and the circle (the roughly shaded region). Your answer should be expressed in terms of r and θ.