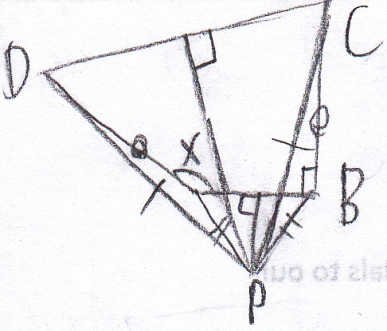
Problem: Given the obtuse angle , we make a quadrilateral with , and , and . Say the perpendicular bisector to meets the perpendicular bisector to at . Then and , so the triangles and have equal sides and are congruent. Thus . But is isosceles, hence . Subtracting gives .

Where is the mistake in the “proof" and why does the argument break down there?



Solution: Try redrawing the diagram, using a ruler to measure exact lengths for reference when drawing lines of equal length. It turns out that segment PD actually lies on the opposite side of A from where it is on the given diagram above. The flaw in the reasoning is that it turns out that is not equal to , but to ; therefore, the measure of is indeterminate with the information given.