



Example 159 : As shown in Figure 3, A , B , C , and D are four adjacent vertices in sequence on a regular polygon. AC intersects BD at P . Prove: $\angle APD = \angle ABC$.

$$\frac{A-C}{B-A} = \frac{A-C}{C-B} \frac{C-B}{B-D}$$

Another

proof:

$$\angle APD = \angle ABP + \angle PAB = \angle ABP + \angle ACB = \angle ABP + \angle PBC = \angle ABC.$$