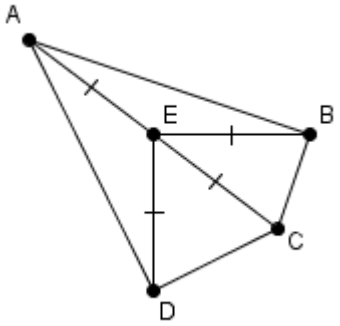
Problem 60



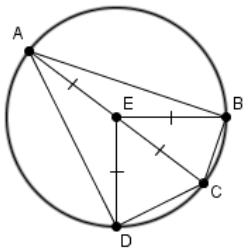
Given: $\overline{AE} \cong \overline{BE} \cong \overline{CE} \cong \overline{DE}$

If $m\angle DAB : m\angle ABC : m\angle BCD = 1 : 2 : 3$,
find $m\angle DAB$

Answer

$\boxed{45^\circ}$

Explanation



Construct the circle centered at E.
We know that opposite angles of quadrilaterals inscribed in circles are supplementary, so by letting $m\angle DAB, m\angle BCD = x, 3x$ respectively, we have $x + 3x = 180^\circ \Rightarrow x = 45^\circ$