

## Problem 7: Find the Angle

---

Let  $ABC$  be an equilateral triangle. A point  $D$  is picked on  $BC$  (between  $B$  and  $C$ ) and the edge  $AC$  is extended linearly to a point  $K$  so that  $|BD| = |CK|$ . If  $\angle BAD = 40^\circ$ , find the angle  $\angle CKD$ .

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators, or answers without proper justification will not be accepted.

---

Posting Date 11/25/2018. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 12/7/18.