BECA / Dr. Huson / Geometry 10th Grade
Unit 11: Algebra II introduction Name:
21 May 2020

11.8 Problem set: Reference angles

1. Two right triangles, $\triangle ABC$ and $\triangle ADE$, are shown in the unit circle with the coordinates of B and D marked.

   Identify each true statement.

   ☐ (a) $AC = 1$

   ☐ (b) The altitude of $\triangle ABC$ is $\dfrac{\sqrt{2}}{2}$

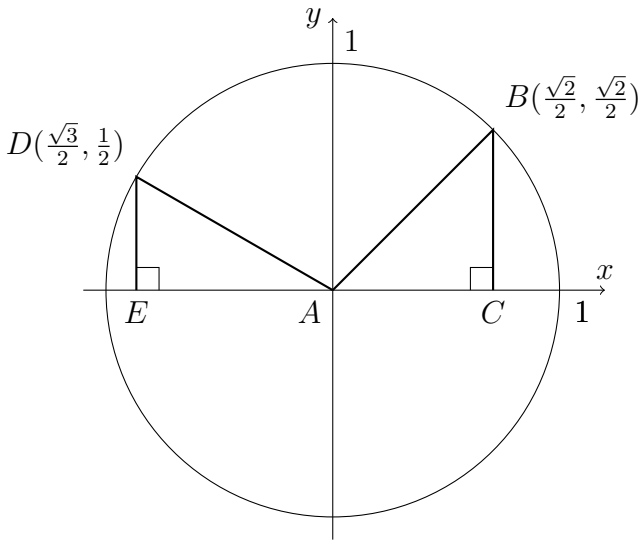
   ☐ (c) $\tan \angle BAC = 1$

   ☐ (d) $m\angle BAC = 45°$

   ☐ (e) $m\angle DAE = 60°$

   ☐ (f) $AD = 1$

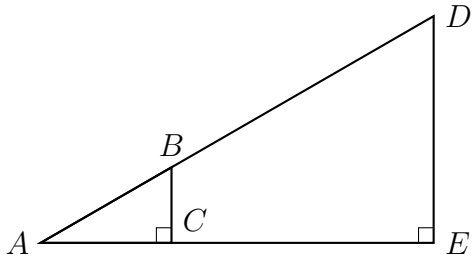
   (g) Mark the $\angle CAD$ on the diagram. State its measure, given its reference angle's measure, $m\angle DAE = 30°$. Justify your answer.



2. Given two 30-60-90 degree triangles, $\triangle ABC \sim \triangle ADE$, with $BC = 1$, $AC = \sqrt{3}$, $AB = 2$. If $AD = 6$ find the lengths of the other two sides.

   (a) $DE =$

   (b) $AE =$



3. Simplify. Rationalize denominators.

   (a) $\sqrt{72}$ (b) $\sqrt{50} - 4\sqrt{2}$ (c) $\dfrac{5}{\sqrt{5}}$