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

11.6 Problem set: Exact values of standard trigonometry ratios

1. A right $\triangle ABC$ is shown with side lengths 1, $\sqrt{3}$, and 2, as marked.

   Identify each true statement

   ☐ (a) $1^2 + (\sqrt{3})^2 = 2^2$

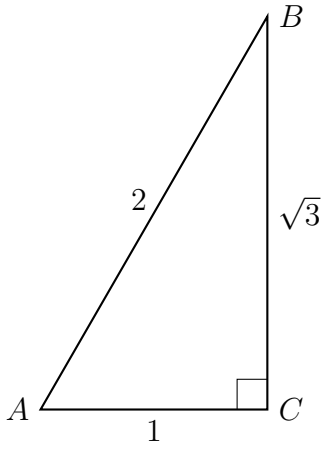
   ☐ (b) $\cos A = \dfrac{1}{2}$

   ☐ (c) $\sin B = \dfrac{\sqrt{3}}{2}$

   ☐ (d) $m\angle A = 60°$

   ☐ (e) $\cos B = \dfrac{\sqrt{3}}{2}$

   ☐ (f) $m\angle A = 2 \times m\angle B$

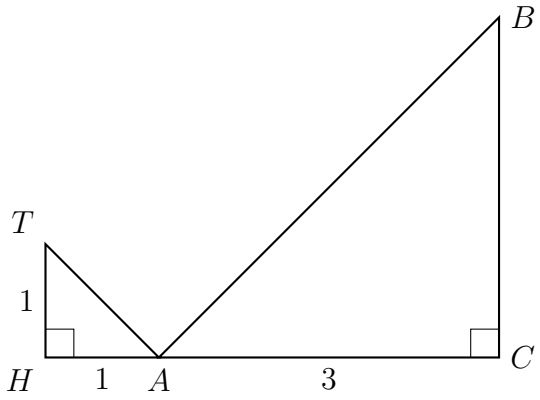


2. Two similar, right isosceles triangles $\triangle HAT \sim \triangle CAB$ have a scale factor $k = 3$. Angles $\angle H$ and $\angle C$ measure 90° and $HA = HT = 1$, as shown.

   (a) Find the exact length of the hypotenuse TA

   (b) Write down the degree measure of $\angle T$

   (c) Find the altitude of $\triangle CAB$, BC



3. Using a calculator, find θ and round to the *nearest whole degree*.

   (a) $\theta = \sin^{-1} 0.500$

   (b) $\theta = \cos^{-1}\left(\dfrac{\sqrt{3}}{2}\right)$

   (c) $\tan\theta = 1.000$

   (d) $\cos\theta = 0.707$