BECA / IB Math 6 Geometry Name:

Right triangle trigonometry **HSG.SRT.C.8**

1. Calculate each value. Round to the nearest thousandth.

   (a) $\sin 11^\circ$

   (b) $\cos 62^\circ$

   (c) $\tan 23^\circ$

   (d) $\sin 81^\circ$

2. Find θ. Round to the nearest whole degree.

   (a) $\theta = \sin^{-1}(\frac{3}{5})$

   (b) $\theta = \tan^{-1}(0.88)$

   (c) $\theta = \cos^{-1}(0.500)$

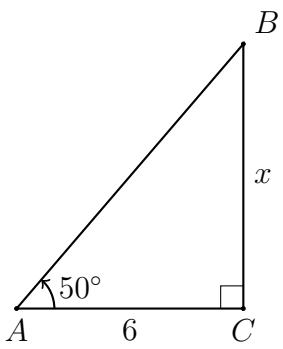
   (d) $\tan\theta = \dfrac{11.3}{6.9}$

3. Solve each equation for x, rounding to the nearest tenth.

   (a) $\cos 71^\circ = \dfrac{x}{15}$

   (b) $\tan 49^\circ = \dfrac{12.7}{x}$

4. Given right $\triangle ABC$ with $AC = 6$, $m\angle A = 50^\circ$. Find the value of $BC = x$.



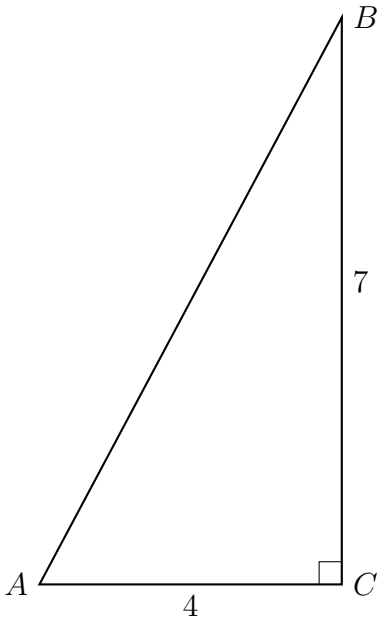
5. $\triangle ABC$ is shown with $m\angle C = 90°$ and the lengths of the triangle's sides are $AC = 4$, $BC = 7$. (not drawn to scale)

   (a) Write down the value of $\tan A$.

   (b) Find the measure of $\angle A$.

   (c) Write down the value of $\tan B$.

   (d) Find the measure of $\angle B$.



6. Given $\triangle ABC$ with $AC = 9$ centimeters, altitude $h = 7$ cm, and the base $\hat{B} = 40°$. (diagram not to scale)

   (a) Find $\hat{A}$ using $\hat{A} = \sin^{-1}\dfrac{7}{9}$.

   (b) Find BC by solving the Law of Sines

   $$\frac{BC}{\sin A} = \frac{9}{\sin B}$$