12.4 Classwork: Sine and Cosine functions   **HSG.SRT.C.8**
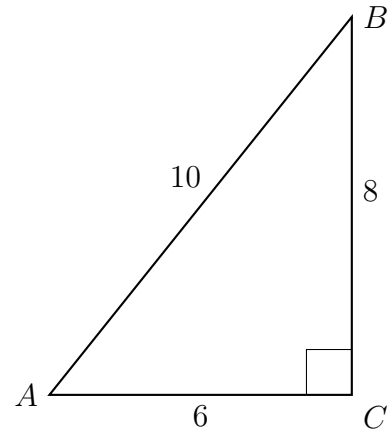
1. Right triangle $\triangle ABC$ is shown with side lengths marked. Identify the sides.
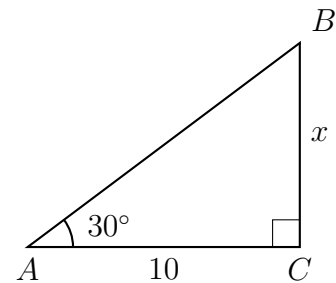
    (a) Which length is the hypotenuse?
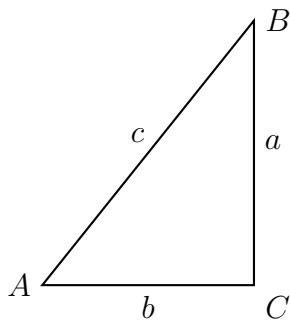
    (b) Which length is *opposite* angle A?

    (c) Which length is *adjacent* to angle A?

2. Use the tangent function to find the value of $BC = x$ for $\triangle ABC$ as shown.

3. $\triangle ABC$ is shown with $m\angle C = 90°$. The lengths of the triangle's sides are a, b, and c. Express each trigonometric ratio as a fraction of two variables.
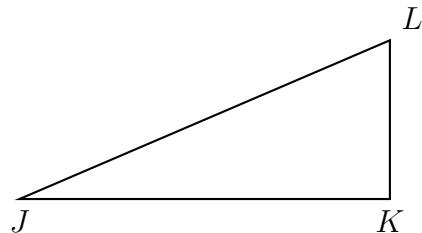

    (a) $\sin B =$

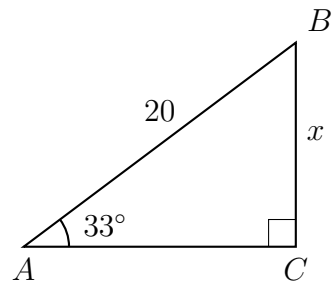   (b) $\cos B =$

    (c) $\tan B =$

4. Given right $\triangle JKL$ with $\overline{JK} \perp \overline{KL}$, $JL = 12.4$, $m\angle J = 41°$. Find the length JK, *rounded to the nearest hundredth.*

5. Right triangle ABC is shown with $AB = 20$, $m\angle A = 33°$. Find the value of $BC = x$.

6. Express the result to *the nearest thousandth.*

    (a) $\sin 32° =$

    (b) $\cos 29° =$

    (c) $\cos 58° =$

    (d) $\sin 61° =$

7. Express the result to *the nearest whole degree.*

    (a) $\sin^{-1} 0.420 =$

    (b) $\cos^{-1} 0.675 =$

    (c) $\cos^{-1} 0.850 =$

    (d) $\sin^{-1} 0.125 =$