

Classwork: Tangent function, trigonometric ratios

Show each step, justify each by writing the name of a theorem to the right.

1. Express the result to the nearest thousandth.

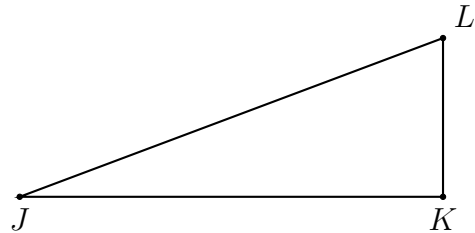
(a) $\tan 60^\circ =$

(c) $\tan 23^\circ =$

(b) $\tan 67^\circ =$

(d) $\tan 45^\circ =$

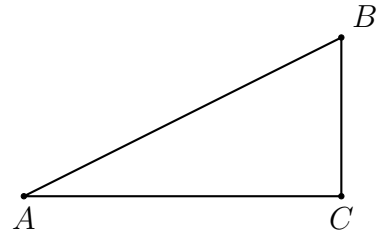
2. Given right $\triangle JKL$ with $\overline{JK} \perp \overline{KL}$, $JK = 7$, $m\angle J = 20^\circ$.



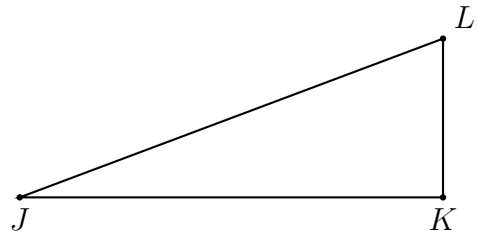
- (a) Use the tangent function to find the length KL

- (b) Use the Pythagorean formula to find the length JL

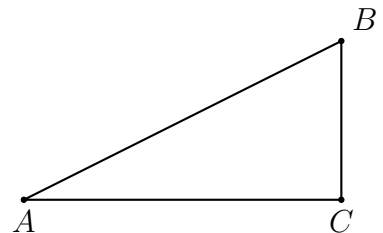
3. Given right $\triangle ABC$ with $AC = 6$, $BC = 2.8$, $m\angle C = 90^\circ$. Find the value of $m\angle A$, expressed as a decimal to the nearest thousandth.



4. Given right $\triangle JKL$ with $\overline{JK} \perp \overline{KL}$, $JK = 7$, $m\angle J = 20^\circ$. Find the length KL .



5. Given right $\triangle ABC$ with $AC = 10$, $BC = 4$, $m\angle C = 90^\circ$. Find the value of $m\angle A$, expressed as a decimal to the nearest thousandth.



6. Spicy: Given a rectangle with area 35, width x , and length $x + 2$.

(a) Find x .

(b) Find the perimeter of the rectangle.