

6 April 2022

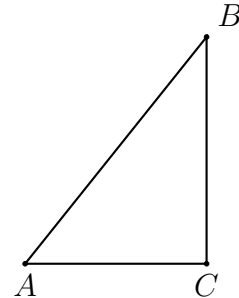
10.3 Inverse trigonometric functions

1. Given right $\triangle ABC$ with $AC = 4$, $BC = 5$, $AB = 6.4$, $m\angle C = 90^\circ$. Express each trig ratio as a fraction, then as a decimal to the nearest thousandth. (1a is an example)

(a) $\sin A = \frac{5}{6.4} = 0.781$

(b) $\cos A =$

(c) $\tan A =$



2. Isosceles right triangle $\triangle ABC$ is shown with base $AC = 1$ length marked.

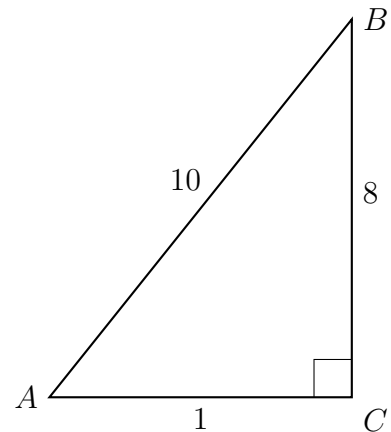
(a) Write down the length of side BC .

(b) Find the length of the hypotenuse AB .

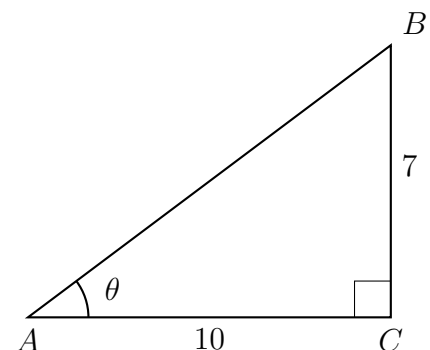
(c) Write down the angle measures of $\angle A$ and $\angle B$.

(d) Write down $\tan A$.

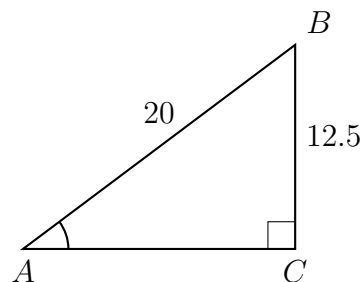
(e) Write down $\cos A$.



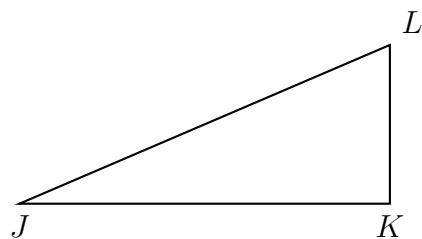
3. Use the inverse tangent function to find $m\angle A = \theta$ for right $\triangle ABC$ as shown.



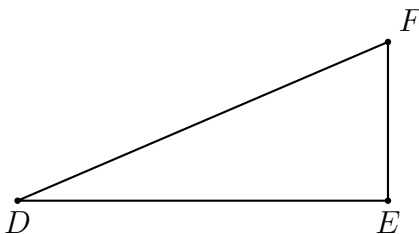
4. Triangle ABC is shown with $AB = 20.0$, $BC = 12.5$, and $m\angle A = 90^\circ$. Find $m\angle A$.



5. Given right $\triangle JKL$ with $\overline{JK} \perp \overline{KL}$, $JL = 12.5$, $JK = 10.9$. Find $m\angle J$ in degrees, rounded to three significant figures.



6. Given right $\triangle DEF$ with $DE = 7$, $EF = 3$, $DF = 7.6$, $m\angle E = 90^\circ$. Express each trig ratio as a fraction, then as a decimal rounded to three significant figures.



(a) $\sin F =$

(d) $\sin D =$

(b) $\cos F =$

(e) $\cos D =$

(c) $\tan F =$

(f) $\tan D =$