10.3 Inverse trigonometric functions   **HSG.SRT.C.8**
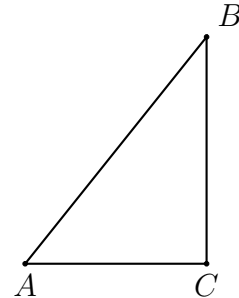
1. Given right $\triangle ABC$ with $AC = 4, BC = 5, AB = 6.4, m\angle C = 90°$. Express each trig ratio as a fraction, then as a decimal to the nearest thousandth. (1a is an example)
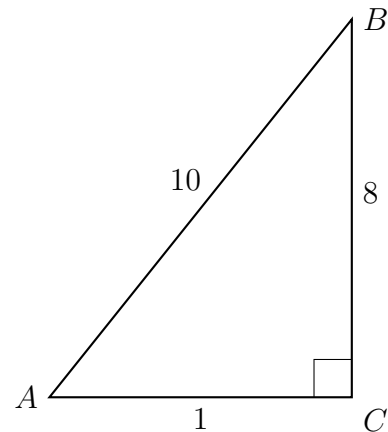
   (a) $\sin A = \dfrac{5}{6.4} = 0.781$
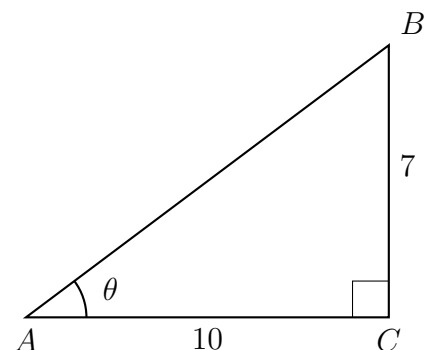
   (b) $\cos A =$

   (c) $\tan A =$

2. Isosceles right triangle $\triangle ABC$ is shown with base $AC = 1$ length marked.
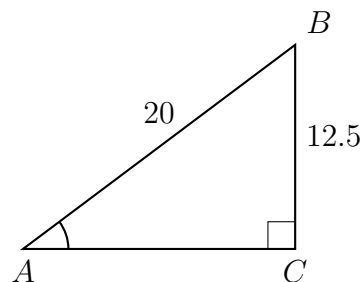
   (a) Write down the length of side BC.

   (b) Find the length of the hypotenuse AB.

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

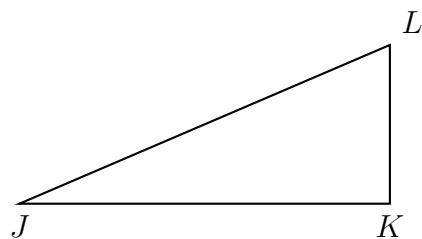   (d) Write down $\tan A$.

   (e) Write down $\cos A$.

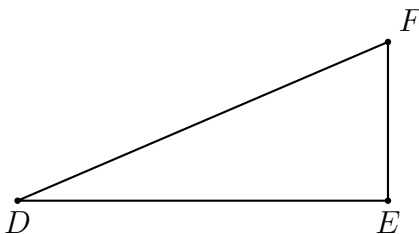3. Use the inverse tangent function to find $m\angle A = \theta$ for right $\triangle ABC$ as shown.

4. Triangle ABC is shown with $AB = 20.0$, $BC = 12.5$, and $m\angle A = 90°$. 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 $DE = 7, EF = 3, DF = 7.6, m\angle E = 90°$. Express each trig ratio as a fraction, then as a decimal *rounded to three significant figures.*

(a) $\sin F =$

(b) $\cos F =$

(c) $\tan F =$

(d) $\sin D =$

(e) $\cos D =$

(f) $\tan D =$