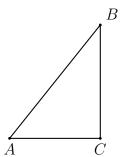
10.3 Inverse trigonometric functions

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)

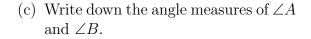
(a)
$$\sin A = \frac{5}{6.4} = 0.781$$

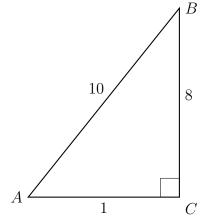


(b)
$$\cos A =$$

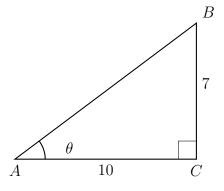
(c)
$$\tan A =$$

- 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.

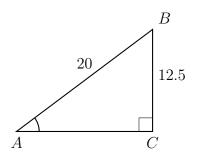




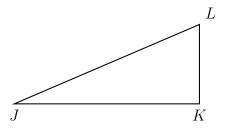
- (d) Write down $\tan A$.
- (e) Write down $\cos A$.
- 3. Use the inverse tangent function to find $m \angle A = \theta$ for right $\triangle ABC$ as shown.



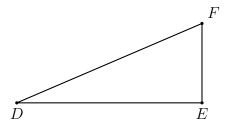
4. Triangle ABC is shown with AB = 20.0, BC = 12.5, and $m \angle A = 90^{\circ}$. Find $m \angle A$.



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)
$$\tan D =$$