6.5 Classwork: Tangent function, slope **CCSS.HSG.SRT.C.8**

1. Do Now: A vector from the origin $\overrightarrow{OA}$ is shown rotated counterclockwise around O.

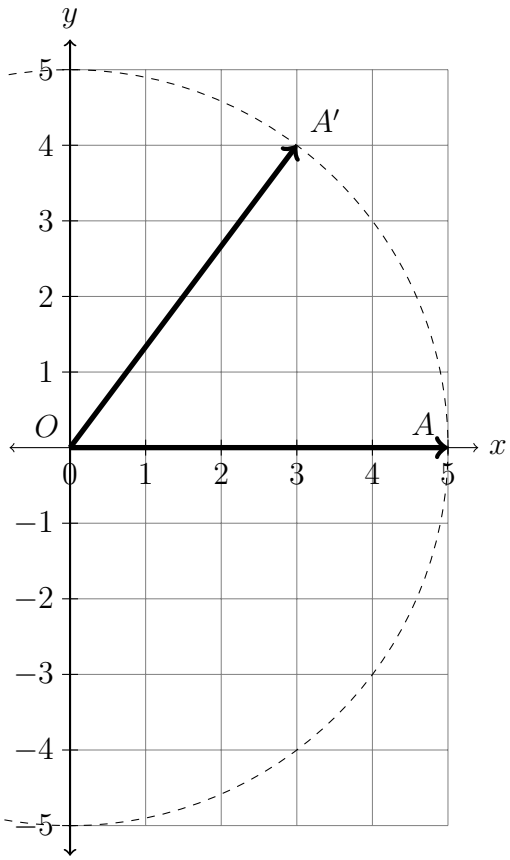
   (a) Using a protractor, measure the angle of rotation.

   (b) Write down the slope of $\overrightarrow{OA'}$.

   (c) Mark and label the point $B(4, -3)$. Draw $\overrightarrow{OB}$.

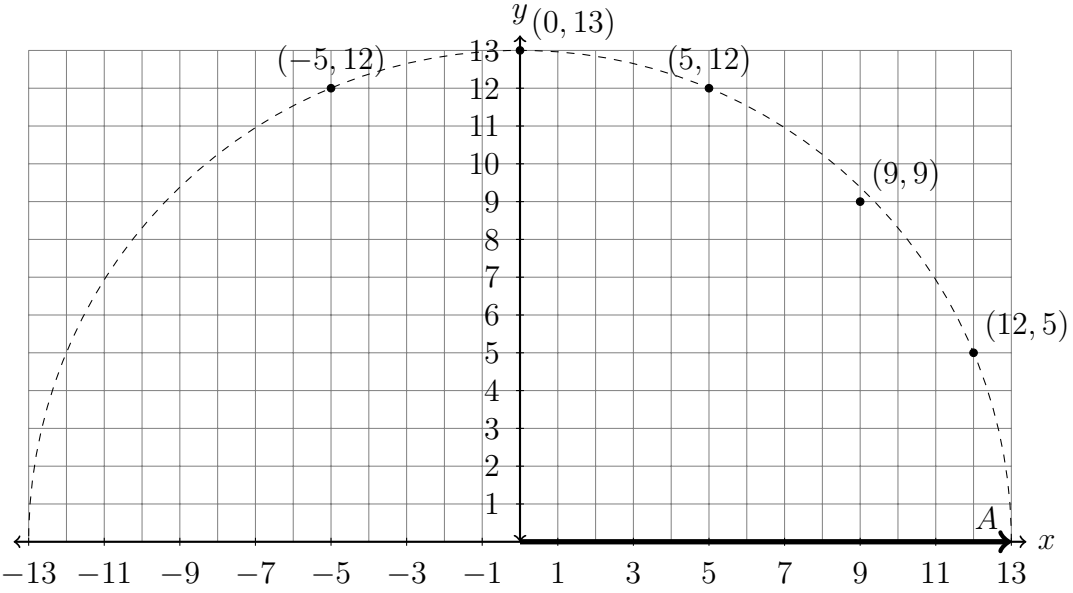
   (d) Write down the slope of $\overrightarrow{OB}$.

   (e) What is the product of the slopes of $\overrightarrow{OA'}$ and $\overrightarrow{OB}$?



2. Complete the table mapping angle of rotation onto slope. (six entries)

angle	slope
0	
	5/12



3. Use a calculator. Express the result to the nearest thousandth.

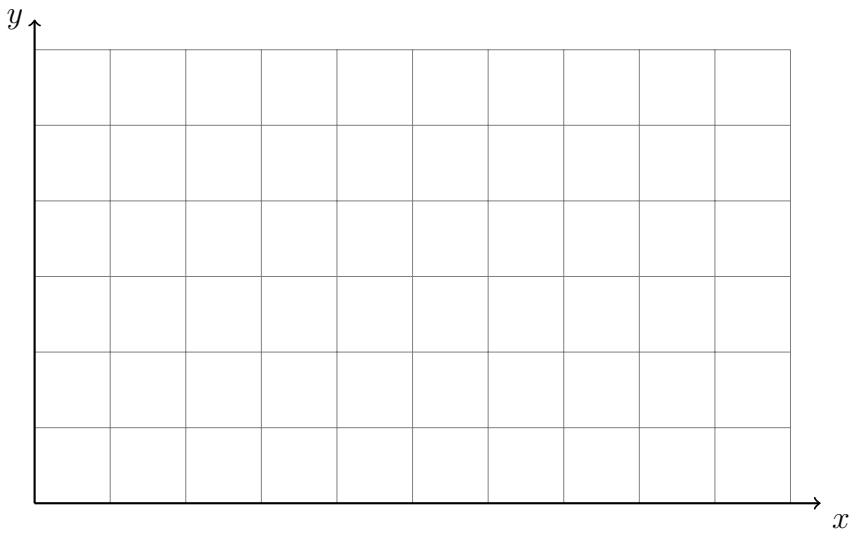
   (a) $\tan 45° =$

   (b) $\tan 30° =$

   (c) $\tan 15° =$

   (d) $\tan 65° =$

4. (a) Graph and label $\triangle ABC$ with $A(0,0)$, $B(7,4)$, and $C(7,0)$.



   (b) Find the slope and y-intercept of the line $\overleftrightarrow{AB}$.

   $m_{AB} =$ $b_{AB} =$

   (c) Write down the equation of each line.

   $\overleftrightarrow{AB}$: $\overleftrightarrow{BC}$: $\overleftrightarrow{AC}$:

   (d) Find the measure of $\angle BAC = \theta$ in degrees with a protractor.

   (e) Find the slope of $\overleftrightarrow{AB}$ using the tangent function.

   $\tan(\theta) =$