Do Now: Linear & quadratic functions on the coordinate plane

1. Express the result to *the nearest hundredth*.

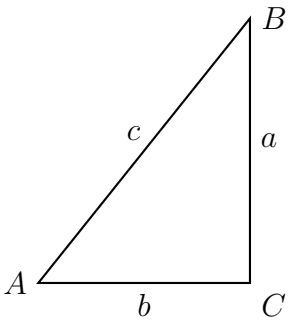
   (a) $\sin 32° =$

   (b) $\cos 29° =$

   (c) $\cos 58° =$

   (d) $\sin 61° =$

2. $\triangle ABC$ is shown with $m\angle C = 90°$. The lengths of the triangle's sides are a, b, and c. Express each trigonometric ratio as a fraction of two variables.

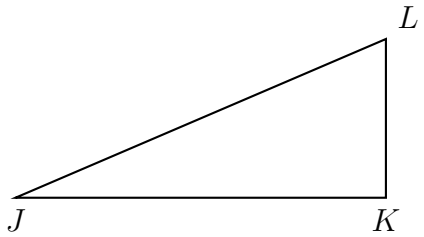


   (a) $\sin B =$

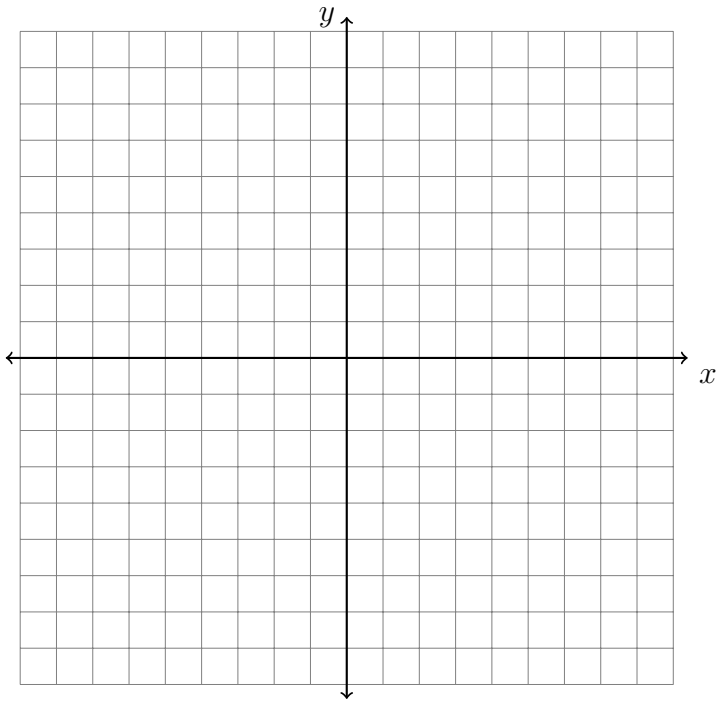
   (b) $\cos B =$

   (c) $\tan B =$

3. Given right $\triangle JKL$ with $\overline{JK} \perp \overline{KL}$, $JL = 12.4$, $m\angle J = 41°$. Find the length JK, *rounded to the nearest hundredth*.



4. Spicy: On the set of axes below, graph the quadrilateral $ABCD$ having coordinates $A(-3,-3)$, $B(5,1)$, $C(6,8)$, and $D(-2,4)$.



Given that $\overline{AD} \perp \overline{BC}$. Use what you know about slope and the definition that a parallelogram is a quadrilateral with two pairs of parallel sides to prove $ABCD$ is a parallelogram. Be sure to state the conclusion in your proof.