11-3 Do Now: Using slope to prove theorems

1. Given parallelogram $ABCD$ with $m\angle A = 65°$, $AB = 4.5$, and $BC = 7$. Find the value of each angle measure or side length.

   (a) $m\angle B =$

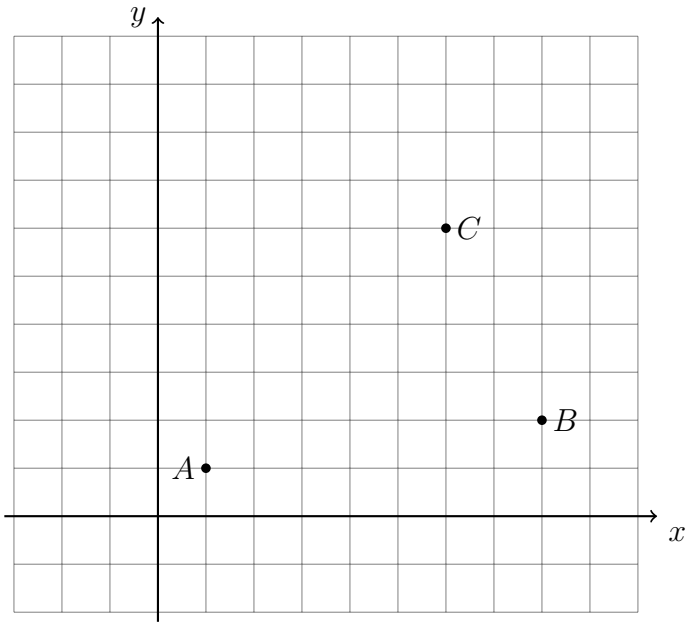
   (b) $m\angle C =$

   (c) $m\angle D =$

   (d) $CD =$

   (e) $AD =$

2. Three of the vertices of the parallelogram $ABCD$ are given: $A(1, 1)$, $B(8, 2)$, $C(6, 6)$. Determine and state the coordinates of the fourth vertex, D, and mark and label it on the grid below. Draw the sides of the parallelogram.



3. Draw quadrilateral $ABCD$ with vertices $A(-2, 2)$, $B(6, 0)$, $C(8, 4)$, and $D(0, 6)$ on the grid below. Prove that $ABCD$ is a parallelogram by using slopes to show $\overline{AB}||\overline{CD}$ and $\overline{AD}||\overline{BC}$.

   Be sure to state that $m_{\overline{AB}} = m_{\overline{CD}}$ and $m_{\overline{AD}} = m_{\overline{BC}}$. Finish with a concluding statement.