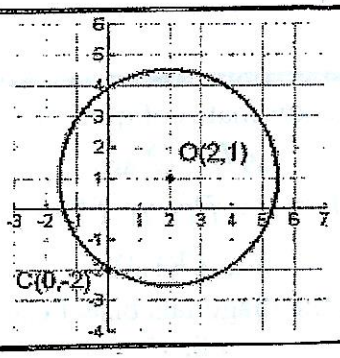
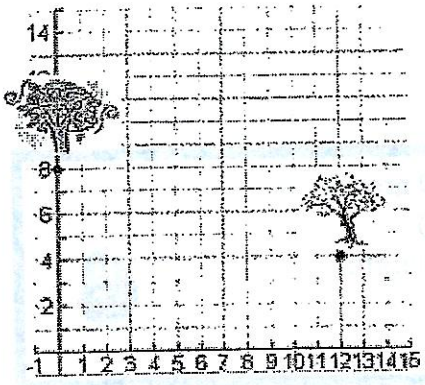
1. $\overline{CD}$ is the diameter of a circle whose center is the point (2,1). If the coordinates of C are (0,-2), find the coordinates of D.



2.



Mark planted two trees on a planning grid at coordinates (0,8) and (12,4). He wants to plant a row of hedges such that any hedge is the same distance from each of the two trees.

a. Determine the midpoint of the line segment connecting the two trees.

b. Determine the slope of the line connecting the trees.

c. Determine the slope of the row of hedges.

d. Write an equation for the row of hedges.

3. Given that $\overline{QU} \parallel \overline{DA}$.

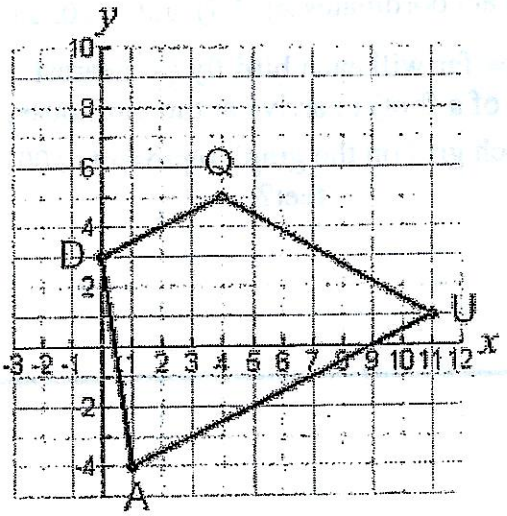
$Q(4,5)$, $U(11,1)$,
$A(1,-4)$, $D(0,3)$

Find the slopes of $\overline{AU}$ and $\overline{DQ}$

Is $QUAD$ a trapezoid?

Find the midpoints of $\overline{QU}$ and $\overline{DA}$ and label them R and S.

Find the lengths of $\overline{DQ}, \overline{RS}, \overline{AU}$
What is the relationship between these three segments?



CED WS 1-2

4. The coordinates of quadrilateral $ABCD$ are $A(-3,-1)$, $B(3,1)$, $C(7,5)$, and $D(1,3)$. Do the diagonals bisect each other?

5. The coordinates of rectangle $ABCD$ are $A(0,2)$, $B(4,8)$, $C(7,6)$ and $D(3,0)$. Show that the diagonals are equal in length.

6. Two birds are flying toward a birdhouse that is halfway between them. The birds are at coordinates $A(-4,4)$ and $B(10,-2)$.

How far will each bird fly (to nearest tenth of a foot) to arrive at the birdhouse, if each grid on the graph represents 100 feet?