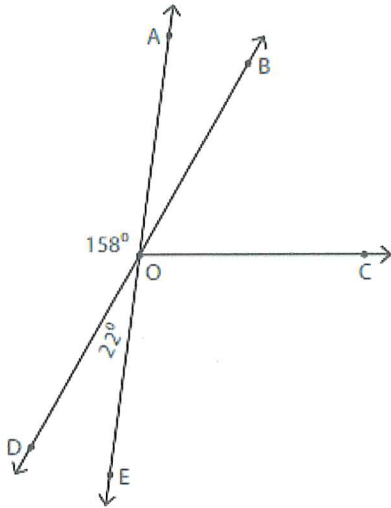


1.



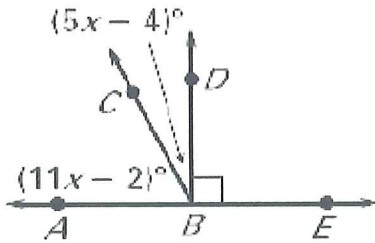
a) $\angle AOB$ and $\angle AOD$ are linear. Find $\angle AOB$.

b) Name the adjacent angles with side OB.

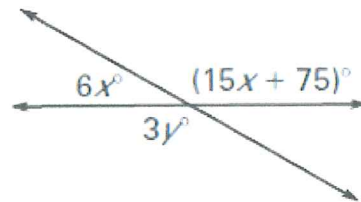
c) Name the angle vertical to 158° .

d) Name the angles adjacent to $\angle DOA$.

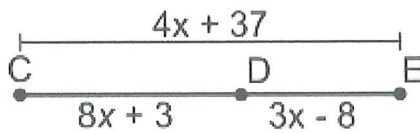
2. Solve for x.



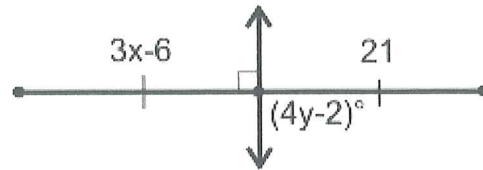
3. Solve for x and y.



4. Find x, CD, and DE



5. Find x and y



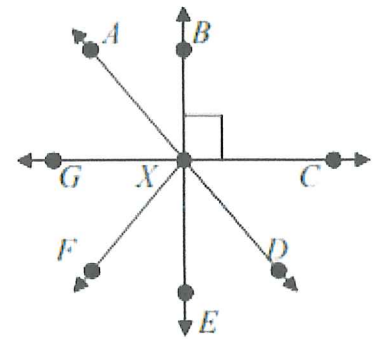
6. For each of the following. Solve for x .

a) $\angle A$ and $\angle B$ form a linear pair. If $m\angle A = (2x)^\circ$ and $m\angle B = (x-15)^\circ$

b) $\angle CFE$ is a right angle. $m\angle 3 = (3x+5)^\circ$, $m\angle 4 = (2x)^\circ$

7. Use the diagram to determine the angle sizes if $m\angle FXE = 40^\circ$ and $m\angle EXD = 35^\circ$.

- | | | |
|--------------------|--------------------|--------------------|
| a. $m\angle GXE =$ | b. $m\angle CXD =$ | c. $m\angle FXG =$ |
| d. $m\angle GXA =$ | e. $m\angle AXB$ | f. $m\angle AXC =$ |
| g. $m\angle AXF =$ | h. $m\angle CXF =$ | i. $m\angle FXD =$ |



8. Lines \overleftrightarrow{TV} and \overleftrightarrow{FG} intersect at point K. $\angle TKF = 4x + 2$ and $\angle VKG = 9x - 8$. Find the measure of both angles.

9. Line m is a bisector of \overleftrightarrow{FG} . The two lines intersect at point P. $\overline{FP} = 27$ and $\overline{PG} = 9x$. Find the value of x .

10. \overrightarrow{PO} bisects $\angle QPR$. If $\angle QPO = 2x + 10$ and $\angle OPR = 5x - 80$, find $m\angle QPR$.

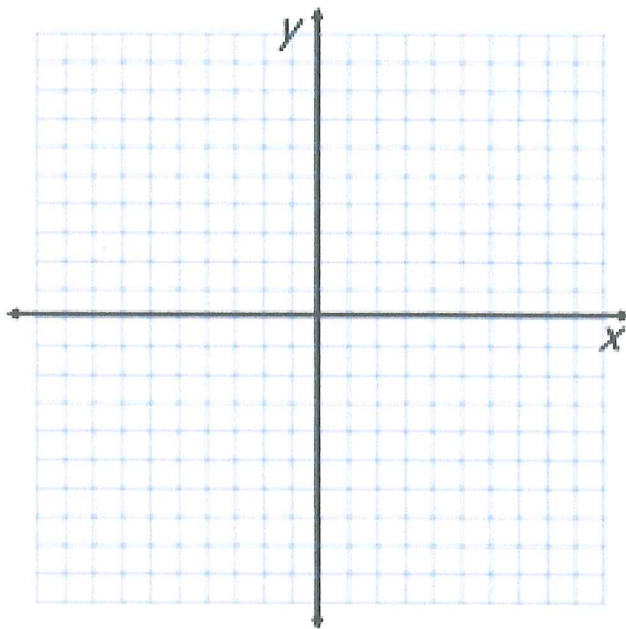
11. Consider circle T with two endpoints of its diameter at $(-4,1)$ and $(3,12)$. How long is the diameter of T? What is the radius of T? Where is the center point T?

12. The coordinates of quadrilateral $ABCD$ are $A (-6, -2)$, $B (-2,5)$, $C (7,5)$, and $D (3, -2)$.

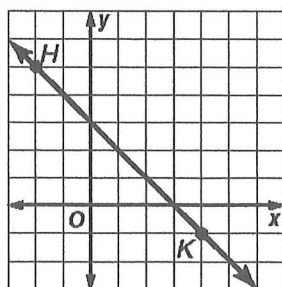
Use the grid provided to answer the following questions.

(a) What is the length of the diagonal AC ?

(b) At what point do the diagonals bisect each other?



13. What is the midpoint and distance of segment HK shown in the graph?



14. K is the midpoint of \overline{PQ} , P has coordinates $(-9, -4)$, and K has coordinates $(-1, 6)$. What are the coordinates of Q ?

- | | |
|-------------|--------------|
| A $(-5, 1)$ | C $(-11, 8)$ |
| B $(5, 10)$ | D $(7, 16)$ |

15. $\overline{JM} \perp \overline{CS}$ and point S lies on \overline{JM} . What is the measure of $\angle CSM$?