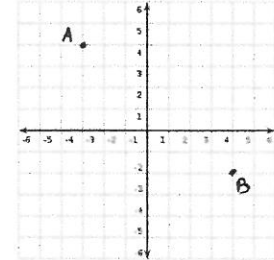


#1-3 Fill in the blank (1 pt each)

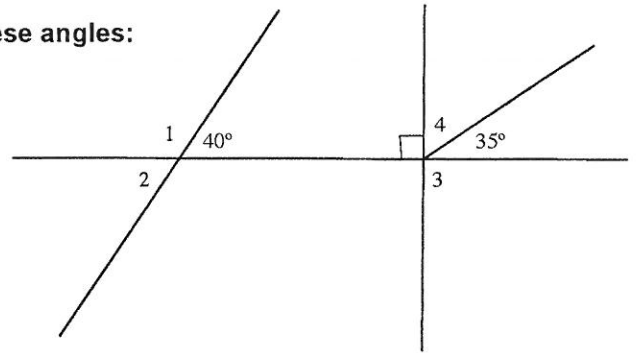
1. Two angles that sum to 180° are _____.
2. When two angles are adjacent and supplementary they form a _____.
3. The midpoint of (3,5) and (-1,9) is _____. (2 pt)

4. a. Find the distance between points A and B on graph. (2 pt)
- b. Find the distance between the points (4,7) and (6,3). (2 pt)



5. Use the diagram (not a protractor) to find the measure of these angles: (1 pt each)

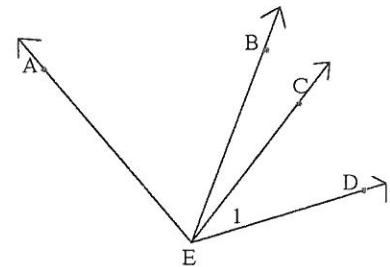
- | | |
|---------------|---------------|
| a. $\angle 1$ | b. $\angle 3$ |
| c. $\angle 2$ | d. $\angle 4$ |



6. $\angle 1$ and $\angle 2$ are complementary angles.
 $\angle 1$ and $\angle 3$ are vertical angles.
 If $m\angle 2 = 32^\circ$, what is the measure of $\angle 3$? (1 pt)
7. If $\angle 1$ and $\angle 2$ are a linear pair and $m\angle 2 = 67$, then $m\angle 1 = ?$ (1 pt)
8. Where do \overrightarrow{PQ} and \overrightarrow{QP} intersect? (A sketch will help) (1 pt)
9. Draw one sketch with points A,B,C and D so that \overrightarrow{CB} and \overrightarrow{CA} are opposite rays and \overrightarrow{CD} and \overrightarrow{CA} are the same ray. (1 pt)

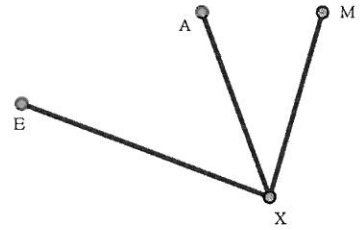
#10-15, Refer to the diagram at right. (1 pt each)

10. Name the sides of $\angle 1$
11. Name a point interior of $\angle DEB$
12. Name an angle adjacent to $\angle AEB$
13. If $m\angle AEB = 75^\circ$ and $m\angle AEC = 130^\circ$, find $m\angle BEC$
14. If \overrightarrow{EB} bisects $\angle AED$, \overrightarrow{EC} bisects $\angle BED$ and $m\angle BEC = 30$, find $m\angle AEC$
15. Use a protractor to measure $\angle BED$



16. \overrightarrow{OR} and \overrightarrow{OP} are opposite rays. \overrightarrow{OQ} bisects $\angle TOR$.
 $m\angle TOQ = 41^\circ$. Find $m\angle TOP$. (2 pt)

17. In the sketch at right $m\angle EXA = (7x-1)^\circ$, $m\angle AXM = (3x+12)^\circ$
and $m\angle EXM = 66^\circ$. Find the exact measure of $\angle EXA$. (2 pt)



18. T is the midpoint of PQ. Which of the following is NOT an appropriate statement? (1 pt)
- a. $PT = TQ$ b. $\overline{PT} \cong \overline{TQ}$
c. $PT + PQ = TQ$ d. $PT + TQ = PQ$

#19-21, answer each with always true, sometimes true or never true. (1 pt each)

19. \overrightarrow{CD} and \overrightarrow{CE} form \overrightarrow{DE}

20. If a ray divides an angle into two acute angles, then it bisects the angle.

21. If C is interior $\angle BOD$ and B is interior $\angle AOC$, then B must be interior of $\angle DOC$

22. One angle is 15 more than twice its supplement. Find the measure of each angle. (2 pt)