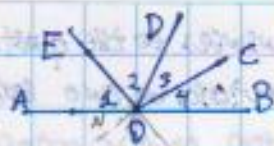


- a. From the definition of bisect in Problem 2, what can you say about $\angle 1$ and $\angle 2$? About $\angle 3$ and $\angle 4$?



$$\angle 1 = \angle 2$$

$$\angle 1 + \angle 2 + \angle 3 + \angle 4 = 180^\circ \quad 180^\circ = \angle 1 + \angle 2$$

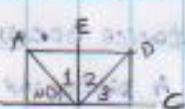
$$180^\circ - \angle 3 - \angle 4 = \angle 1 + \angle 2$$

$$180^\circ = 2(\angle 3) + \angle 1 + \angle 2$$

$$\angle DOB = 180^\circ \quad 180^\circ / 2 = 90^\circ$$

$$\angle 3 + \angle 4 = 180^\circ$$

$$180^\circ = 2(\angle 2) + \angle 3 + \angle 4$$



- b. Since AOB is a straight line, what kind of angle is $\angle AOB$?

Straight angle (180°)

- c. What is the sum of $\angle AOD$ and $\angle DOB$?

As per the solution of Problem a, it follows:

$$\angle 1 + \angle 2 + \angle 3 + \angle 4 = 180^\circ = \angle AOD + \angle DOB$$

- d. ~~The sum of~~ How is angle 2 related to $\angle AOD$?

$$\angle AOD = \angle 2 + \angle 1 \quad \angle 2 = \angle AOD - \angle 1$$

- e. $\angle 3$ is what part of $\angle DOB$?

$$\angle 3 = \angle DOB - \angle 4 \quad \angle 4 = \angle 3 \quad \angle 3 = \frac{1}{2} \angle DOB$$

- f. The sum of $\angle 2$ and $\angle 3$ is what part of $\angle AOB$?

$$\angle AOB = \angle 1 + \angle 2 + \angle 3 + \angle 4 \quad \angle 3 = \angle 4$$

$$\angle AOB = \angle 1 + \angle 2 + \angle 3 + \angle 3 \quad \angle 1 = \angle 2$$

$$\angle AOB = 2(\angle 2) + 2(\angle 3) \quad \angle 3 = \frac{1}{4} \angle AOB$$

- g. What kind of angle is half a straight angle?

Right angle (acute/sharp), 90° .

- h. What kind of angle is $\angle EOC$?

~~Obtuse angle (blunt)~~, therefore Right angle, 90° .

- i. Then what is true about lines EO and OC?

They are perpendicular, since the ^{adj} angles they form are equal.

- j. If two angles whose sum is a straight angle are called

supplementary, which angles in the figure are supplementary?

Since all four angles are equal parts of 180° , any

sum of two of them shall result in a straight

angle, therefore, all four are each other's supplementary angle.