Lines and angles Ex 14.1 Q13

Answer :

Two adjacent angles are said to form a linear pair of angles if their non-common arms are two opposite rays.

∠1 and ∠2
∠2 and ∠3
∠3 and ∠4
∠1 and ∠4
∠5 and ∠6
∠6 and ∠7
∠7 and ∠8
∠8 and ∠5
∠9 and ∠10
∠10 and ∠11
∠11 and ∠12
∠12 and ∠9

Two angles formed by two intersecting lines having no common arms are called vertically opposite angles.

∠1 and ∠3
∠4 and ∠2
∠5 and ∠7
∠6 and ∠8
∠9 and ∠11
∠10 and ∠12

Lines and angles Ex 14.1 Q14

Answer :

Since OE is the bisector of ∠BOD,

$$\therefore \angle DOE = \angle EOB$$
$$\angle 2 + \angle 1 + \angle EOB = 180° \qquad \text{(Linear Pair)}$$
$$\angle 2 + 2\angle 1 = 180° \qquad (\angle 1 = \angle EOB)$$
$$\Rightarrow \angle 2 = 180° - 2\angle 1 = 180° - 2 \times 70° = 180° - 140° = 40°$$
$$\angle 4 = \angle 2 = 40° \qquad \text{(Vertically opposite angles)}$$
$$\angle 3 = \angle DOB = \angle 1 + \angle EOB = 70° + 70° = 140°$$
$$[\angle 3 = \angle DOB \text{ (Vertically opposite angles)}]$$

Lines and angles Ex 14.1 Q15

Answer :

One angle of a linear pair is the right angle, i.e., 90°.

∴ The other angle = 180° − 90° = 90°

********** END *********