



Capítulo II

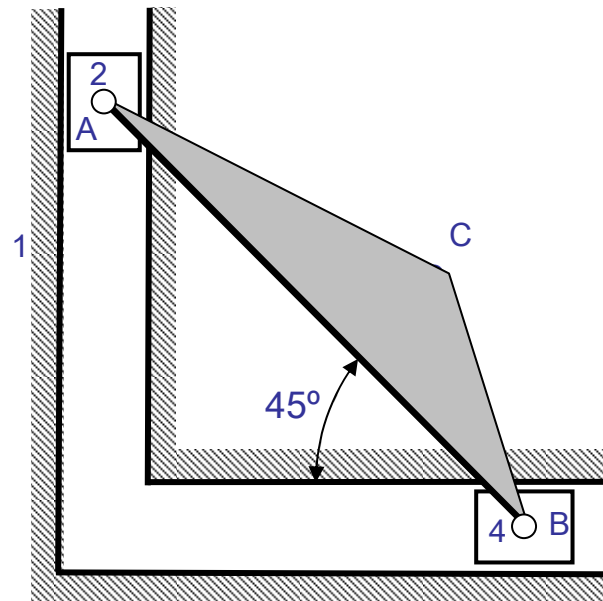
II.2 Teoría de curvatura

Ejercicios prácticos

Problema 1

Enunciado: Dado el mecanismo plano de la figura, determinar:

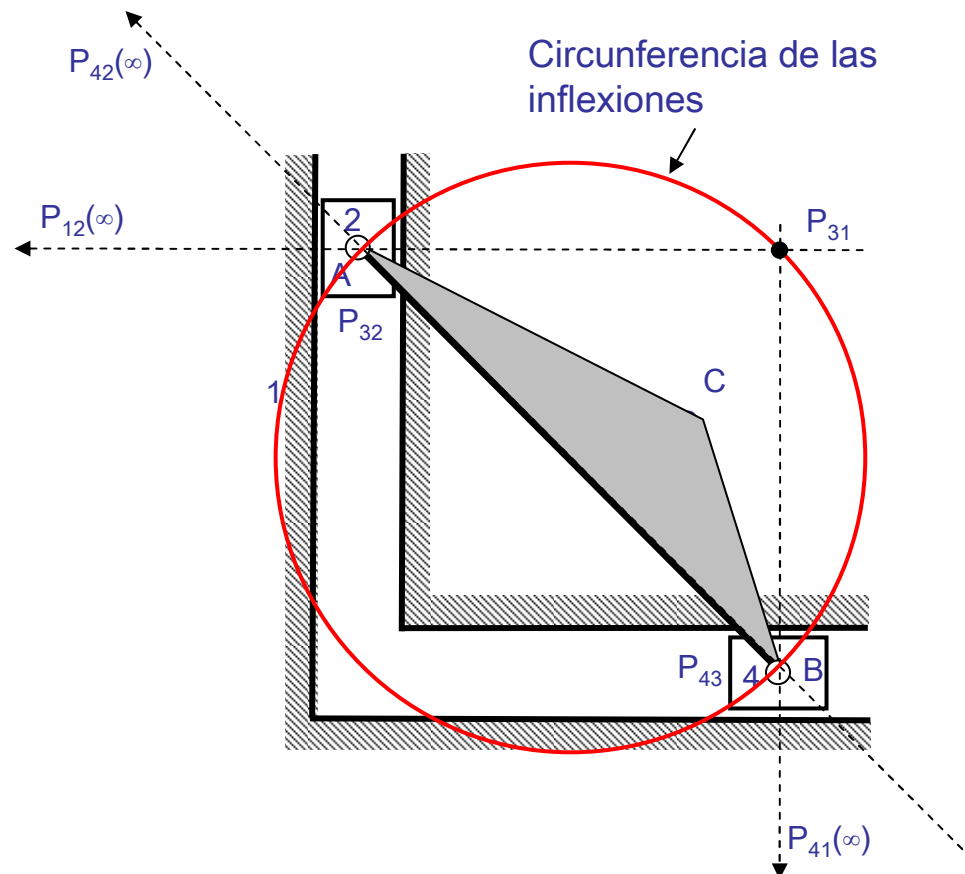
1. Circunferencia de las inflexiones.
2. Cdc del punto C.



Problema 1

Apartado 1

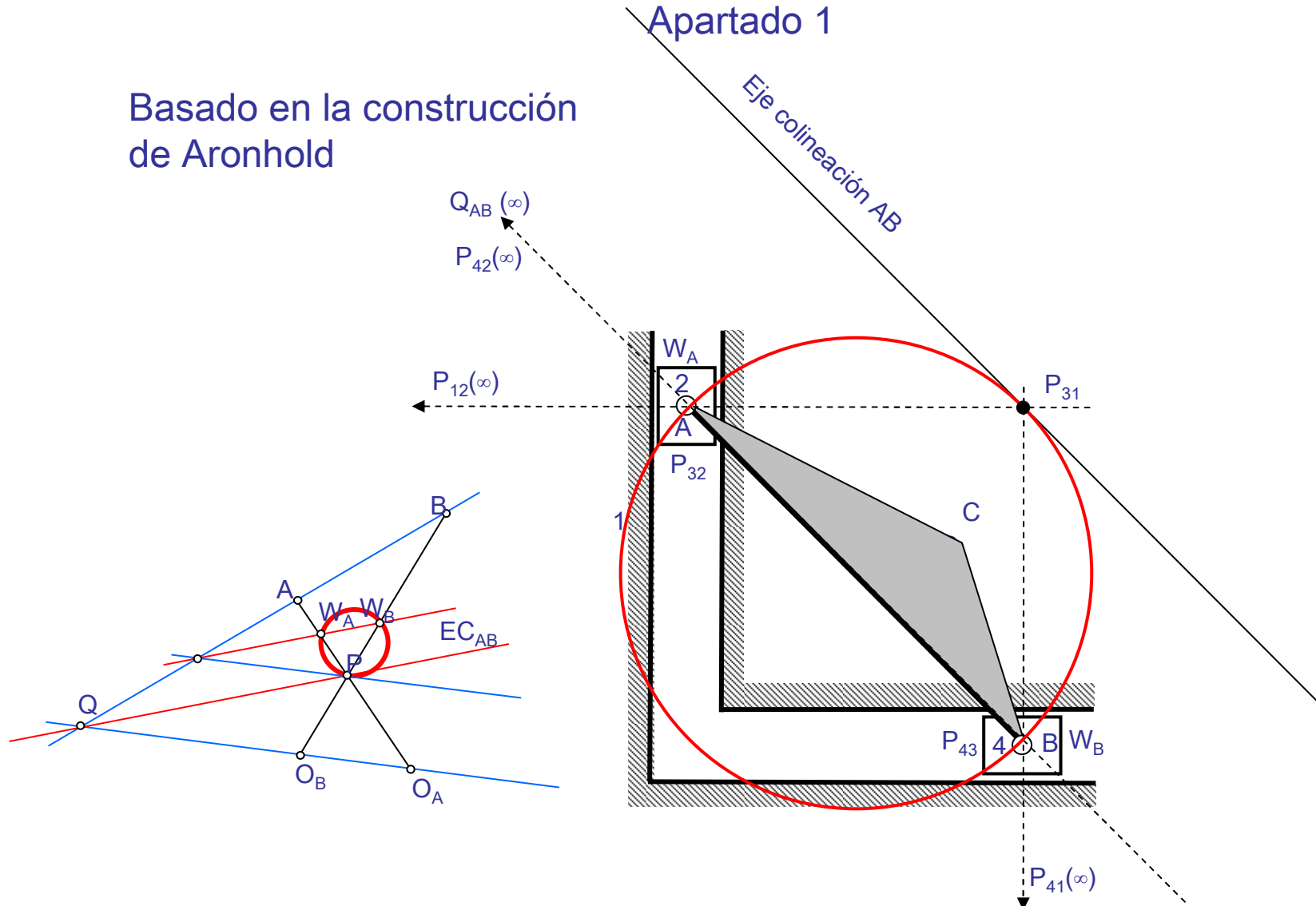
Procedimiento intuitivo



Problema 1

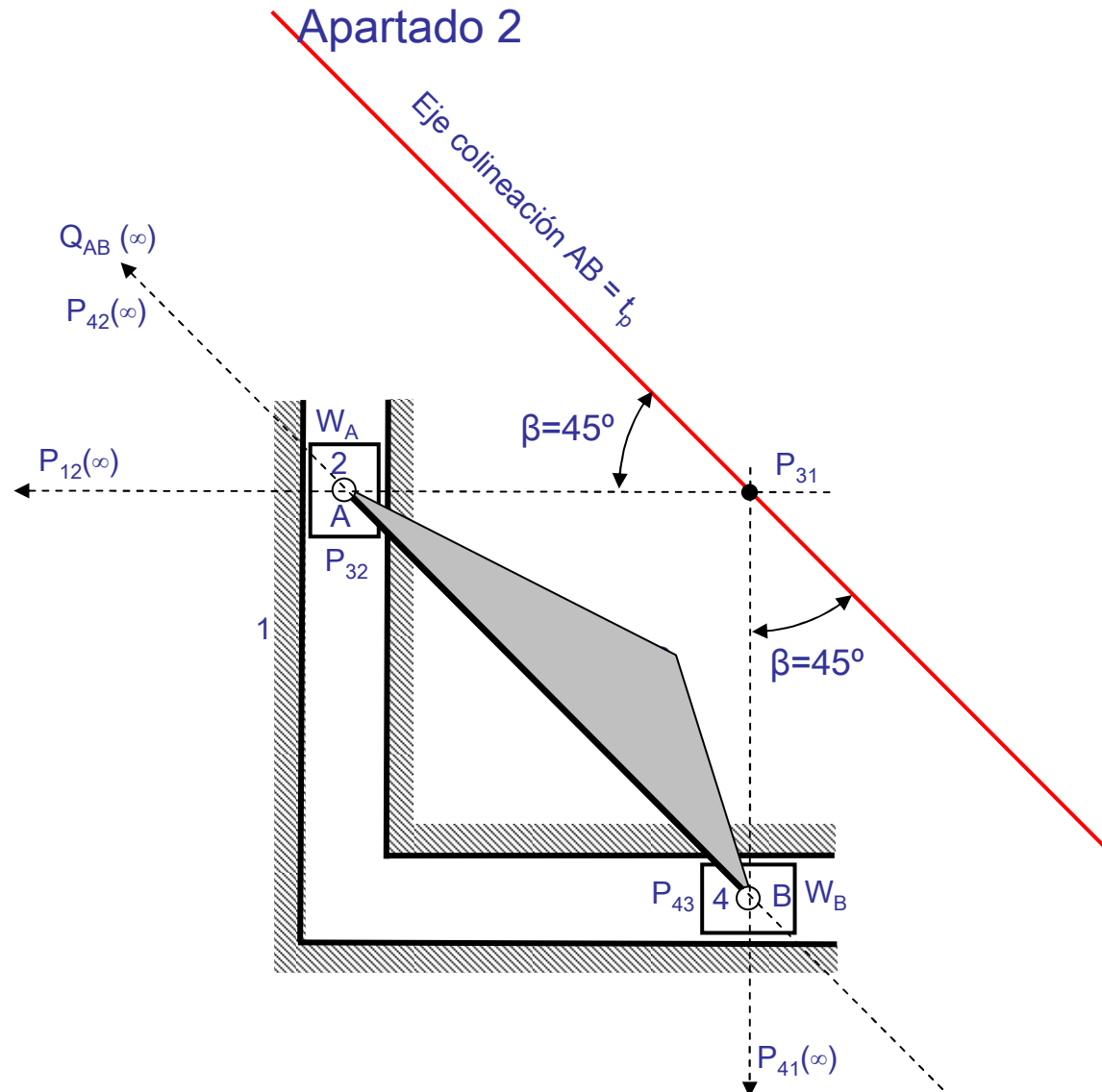
Apartado 1

Basado en la construcción de Aronhold



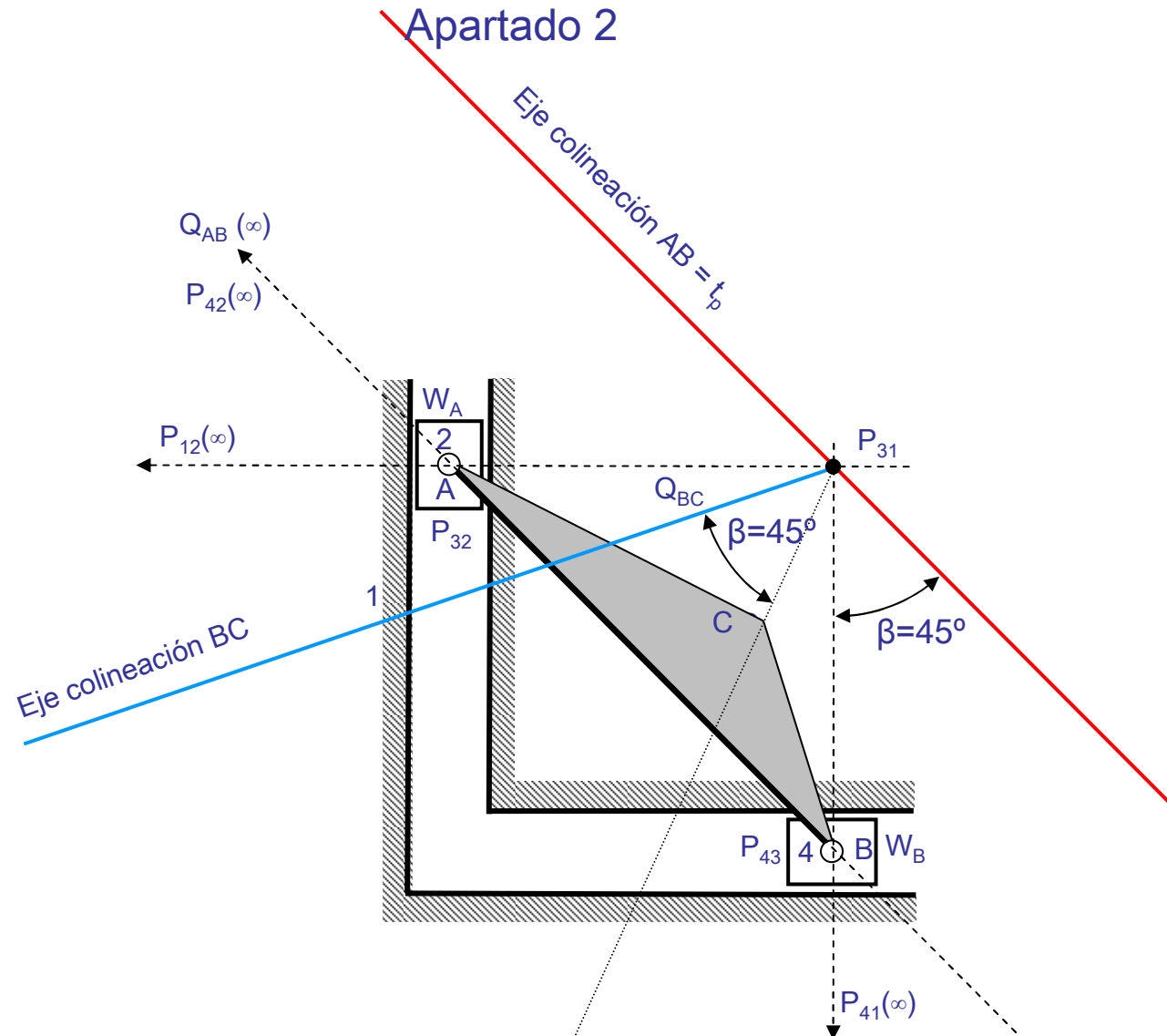
Problema 1

Apartado 2



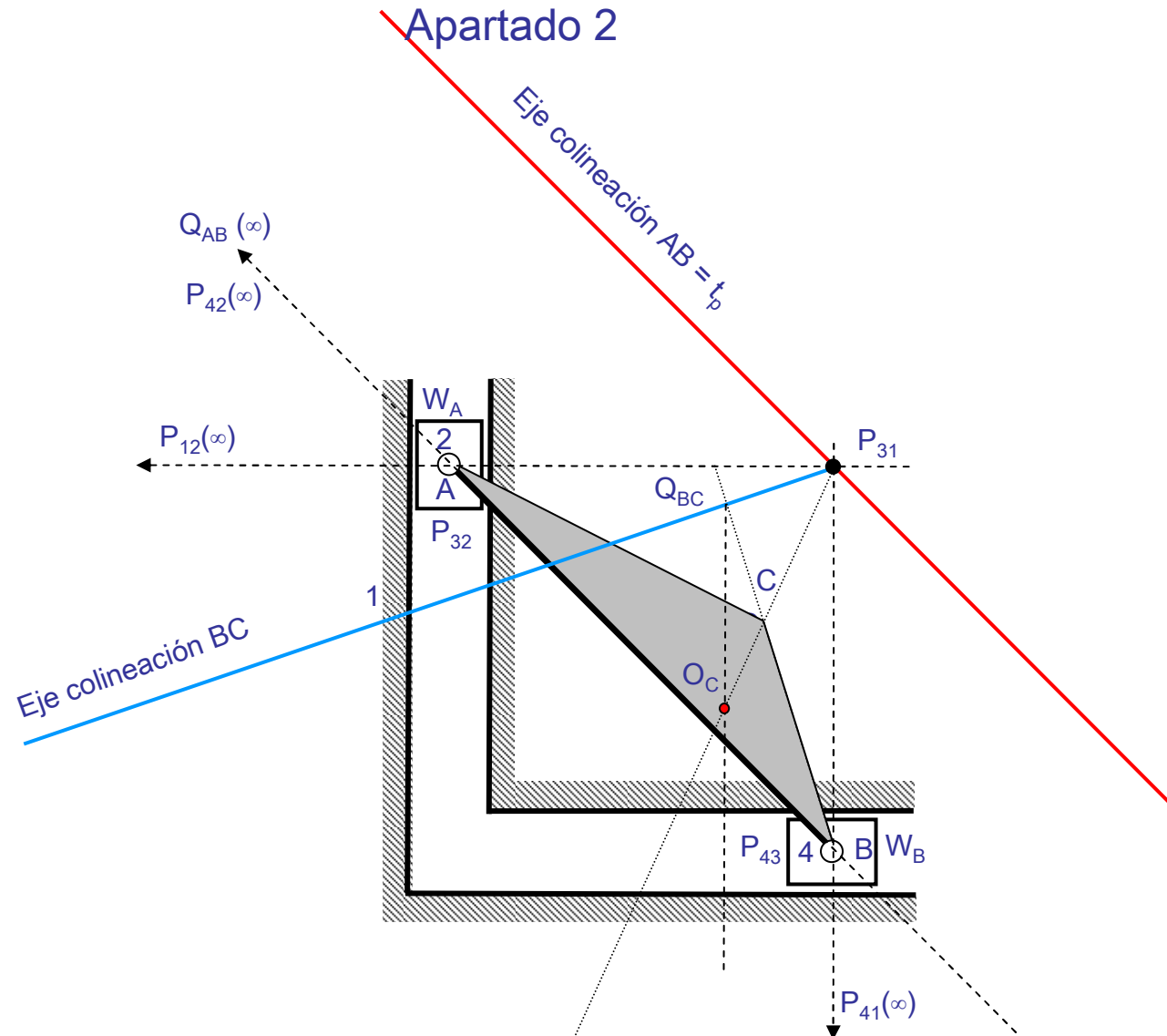
Problema 1

Apartado 2



Problema 1

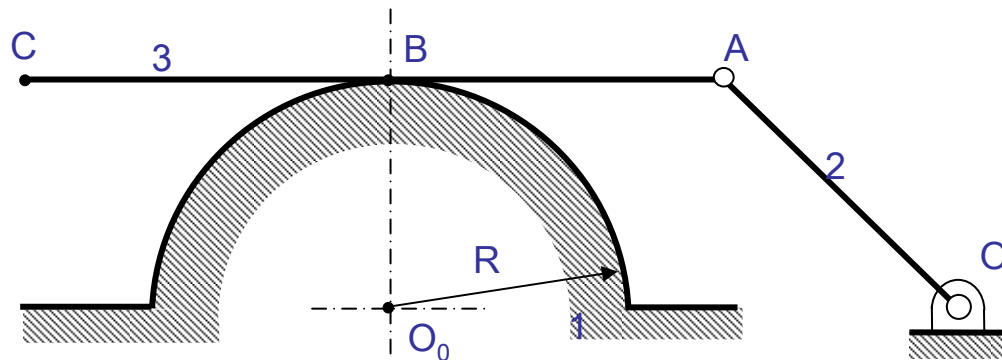
Apartado 2



Problema 2

Enunciado: Dado el mecanismo plano de la figura, determinar:

1. Circunferencia de las inflexiones.
2. Cdc del punto C.



Problema 2

Apartado 1

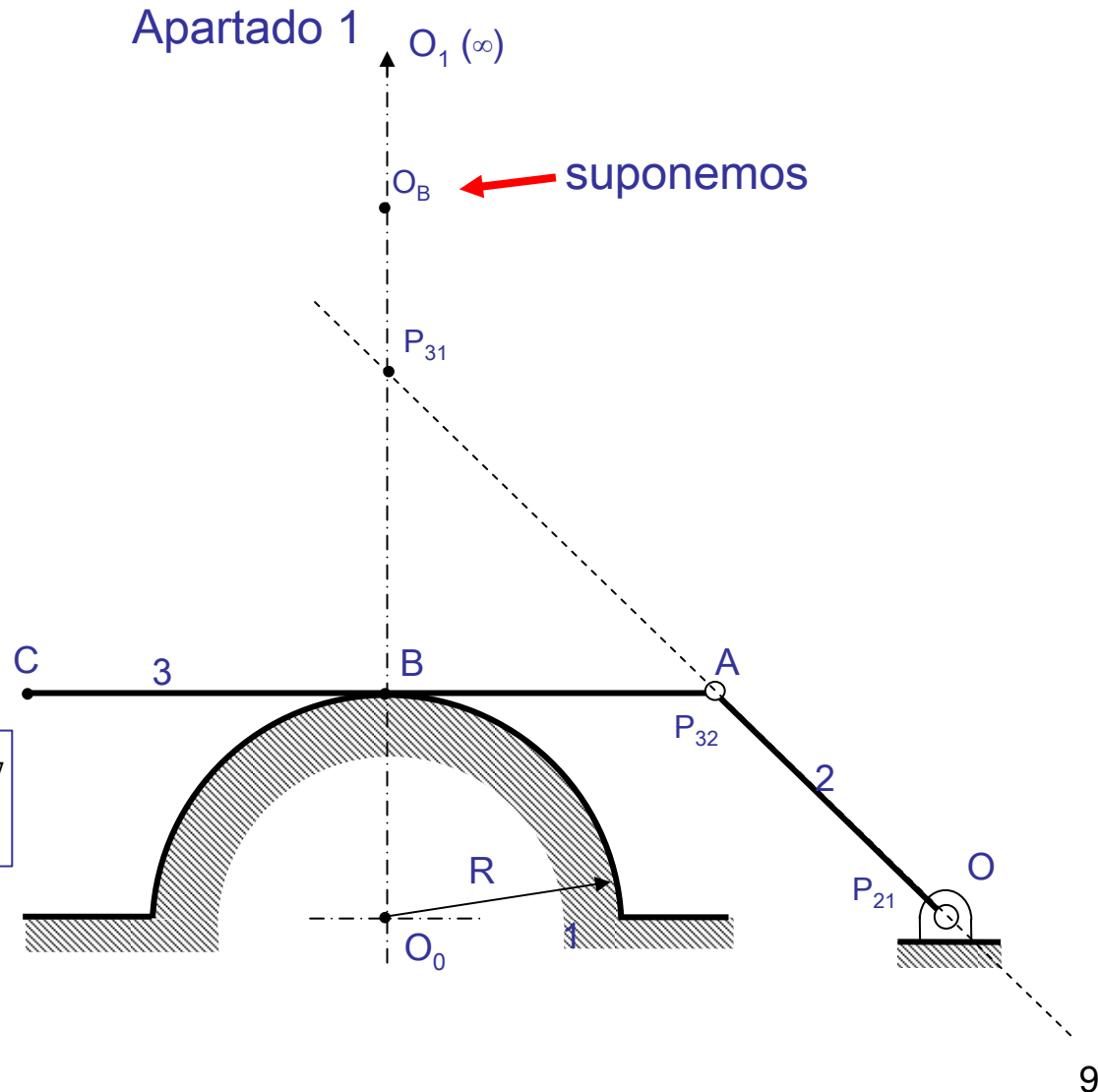
$$\left(\frac{1}{O_B P_{31}} + \frac{1}{P_{31} B} \right) \text{sen} \phi = \text{cte}$$

$$\left(\frac{1}{-O_0 P_{31}} + \frac{1}{P_{31} O_1} \right) \text{sen} \phi = \text{cte}$$

$$\frac{1}{O_B P_{31}} + \frac{1}{P_{31} B} = \frac{1}{-O_0 P_{31}} + \frac{1}{\infty}$$

$$\frac{1}{O_B P_{31}} = -\frac{1}{O_0 P_{31}} - \frac{1}{P_{31} B}$$

$$O_B P_{31} = \frac{-1}{\frac{1}{O_0 P_{31}} + \frac{1}{P_{31} B}} = \frac{-1}{\frac{1}{23,5} + \frac{1}{13,5}} = -8,57$$



Problema 2

Apartado 1 $O_1(\infty)$

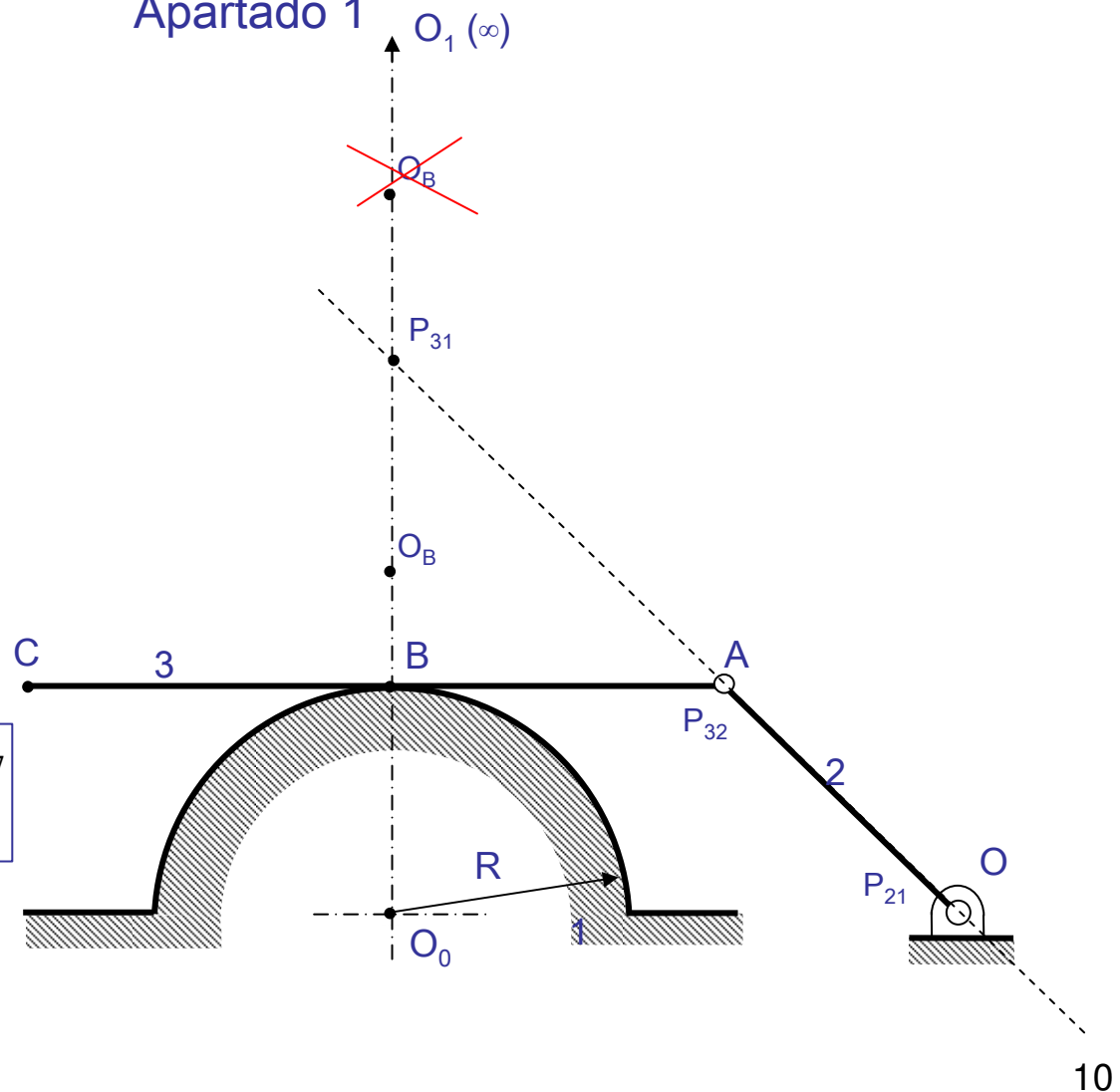
$$\left(\frac{1}{O_B P_{31}} + \frac{1}{P_{31} B} \right) \text{sen } \phi = \text{cte}$$

$$\left(\frac{1}{-O_0 P_{31}} + \frac{1}{P_{31} O_1} \right) \text{sen } \phi = \text{cte}$$

$$\frac{1}{O_B P_{31}} + \frac{1}{P_{31} B} = \frac{1}{-O_0 P_{31}} + \frac{1}{\infty}$$

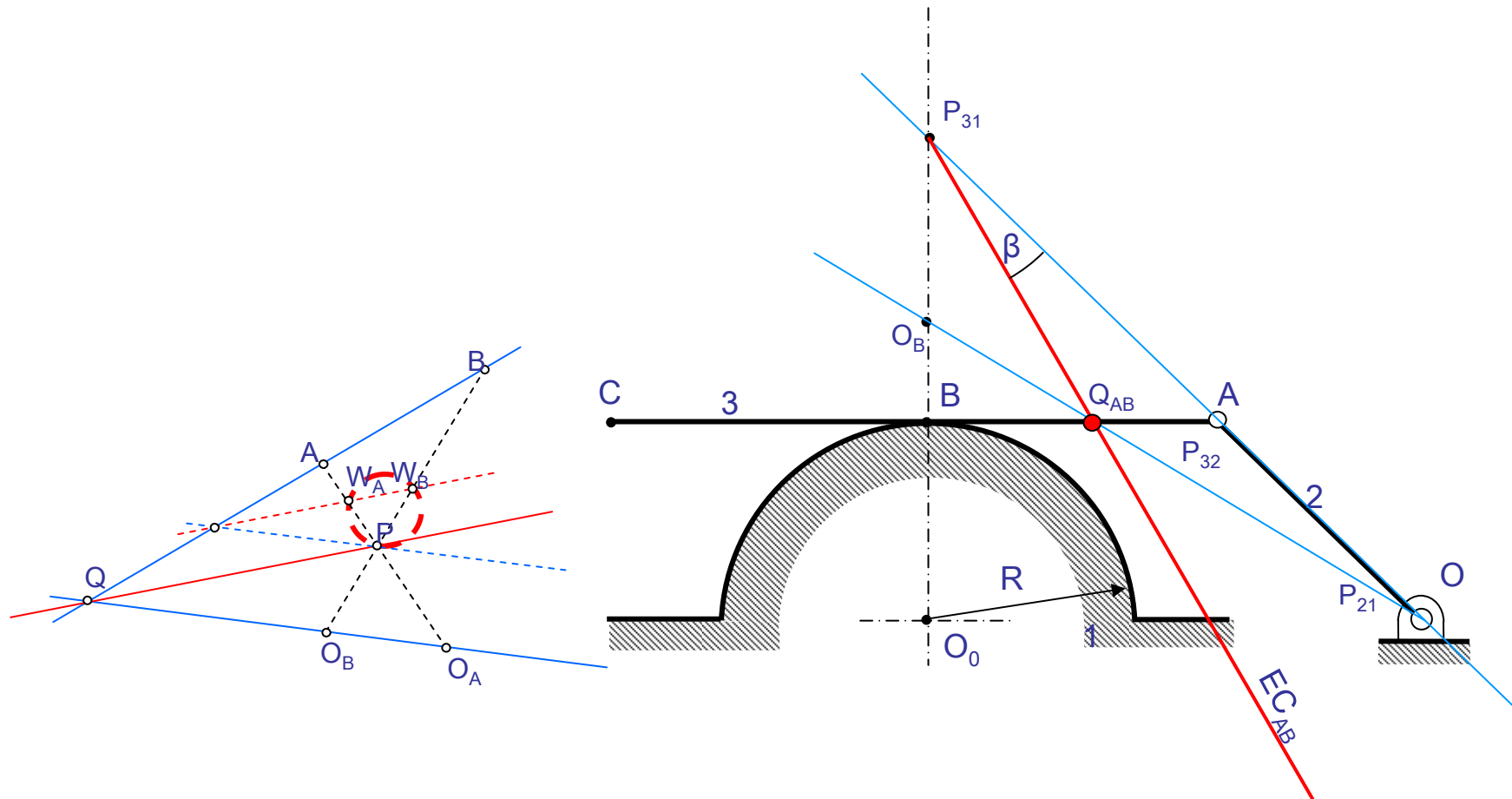
$$\frac{1}{O_B P_{31}} = -\frac{1}{O_0 P_{31}} - \frac{1}{P_{31} B}$$

$$O_B P_{31} = \frac{-1}{\frac{1}{O_0 P_{31}} + \frac{1}{P_{31} B}} = \frac{-1}{\frac{1}{23,5} + \frac{1}{13,5}} = -8,57$$



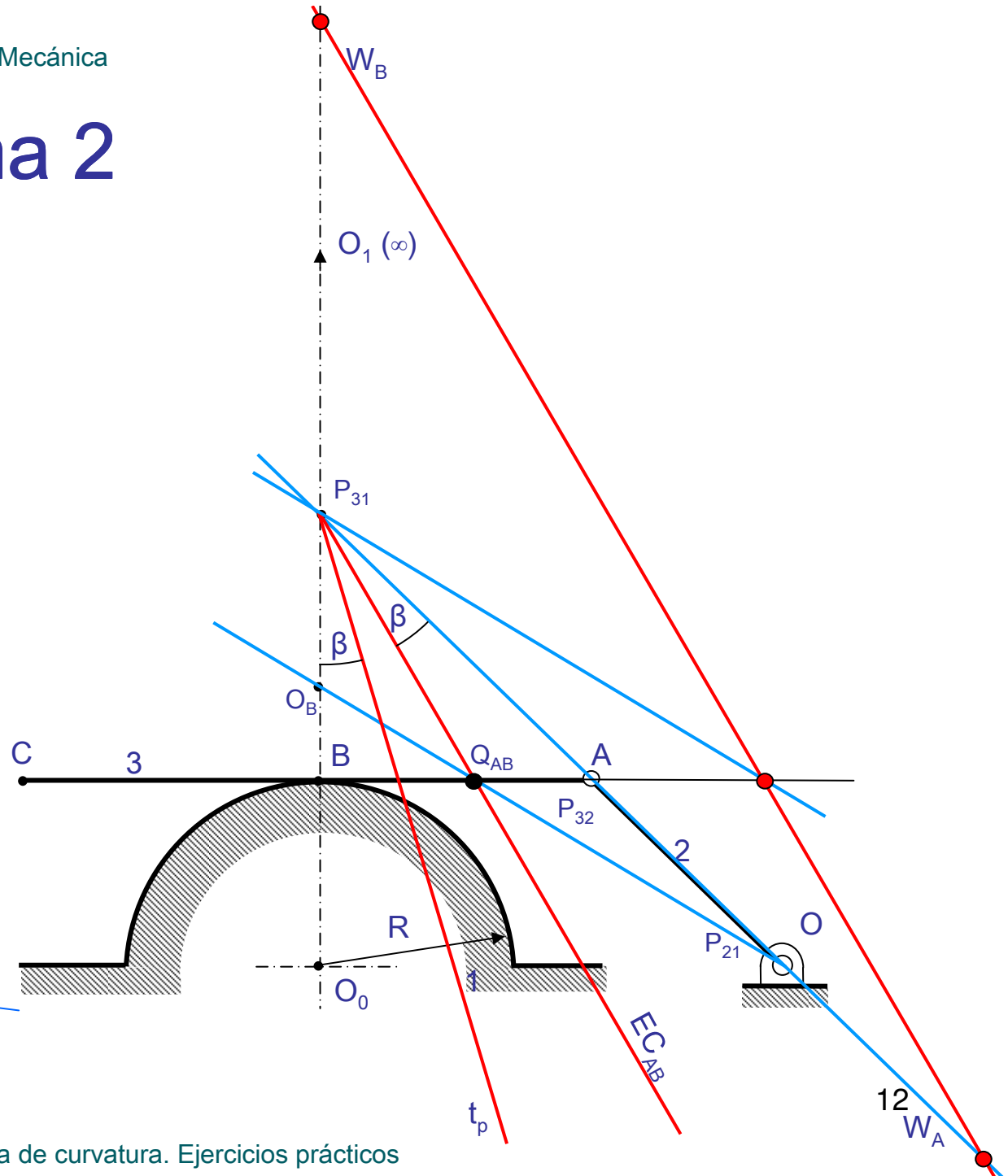
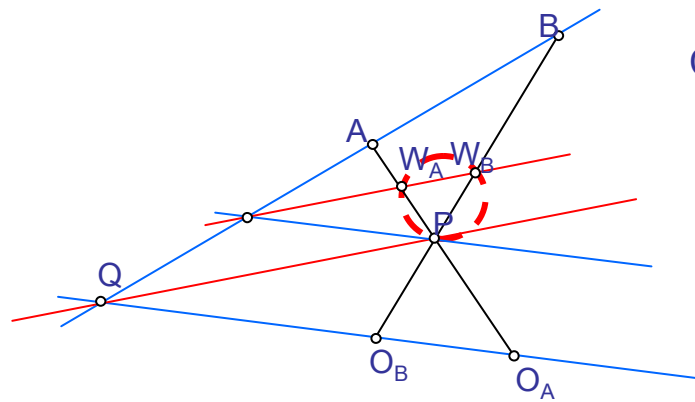
Problema 2

Apartado 1



Problema 2

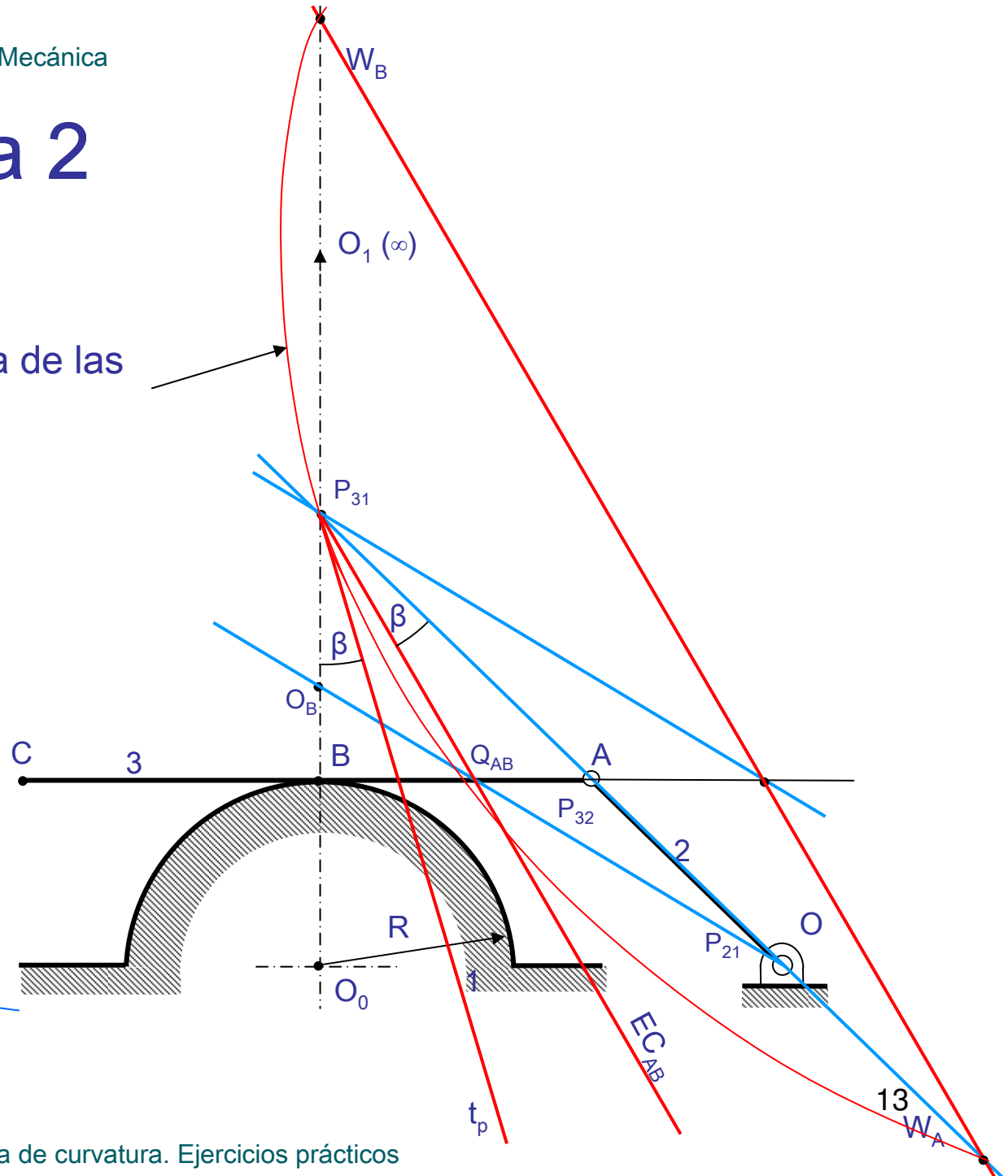
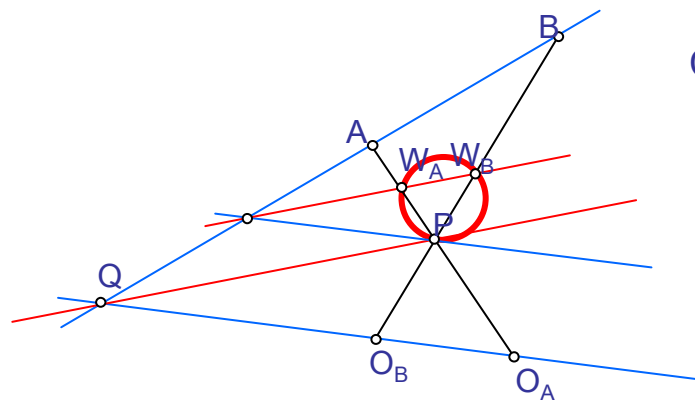
Apartado 1



Problema 2

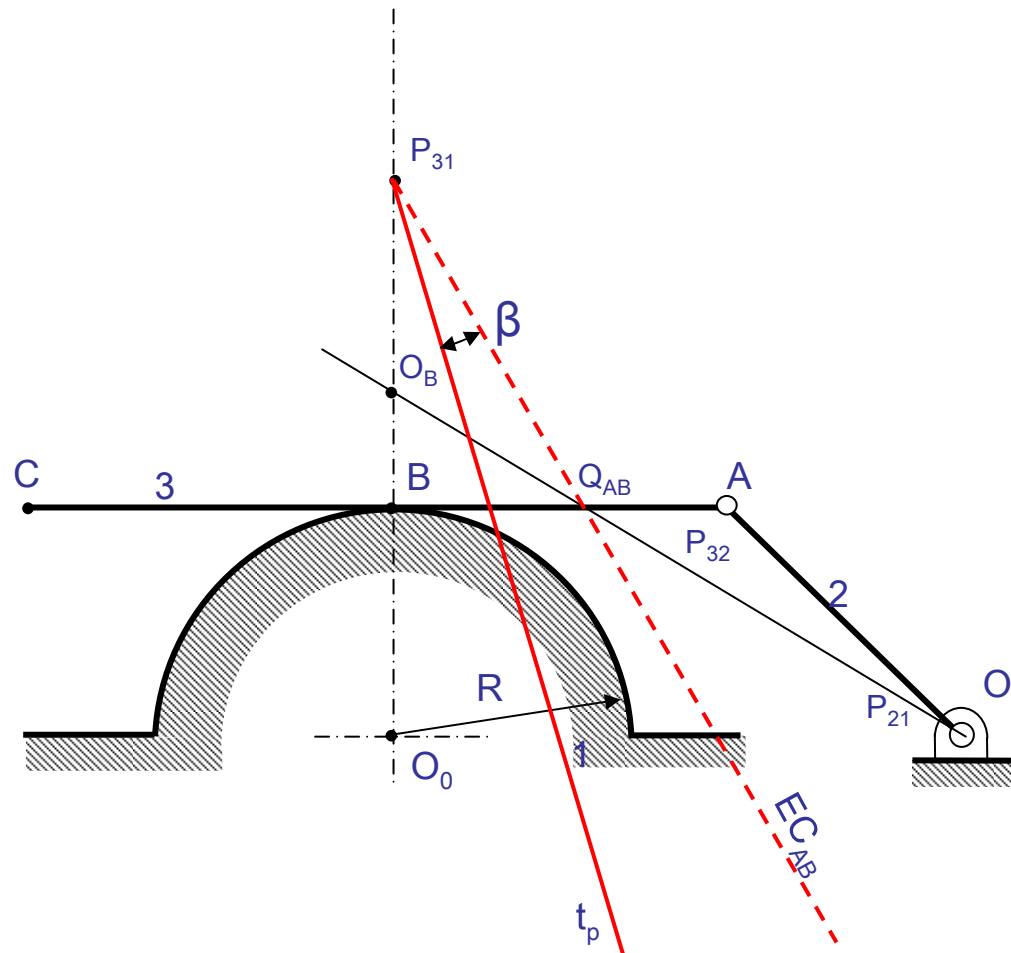
Apartado 1

Circunferencia de las inflexiones



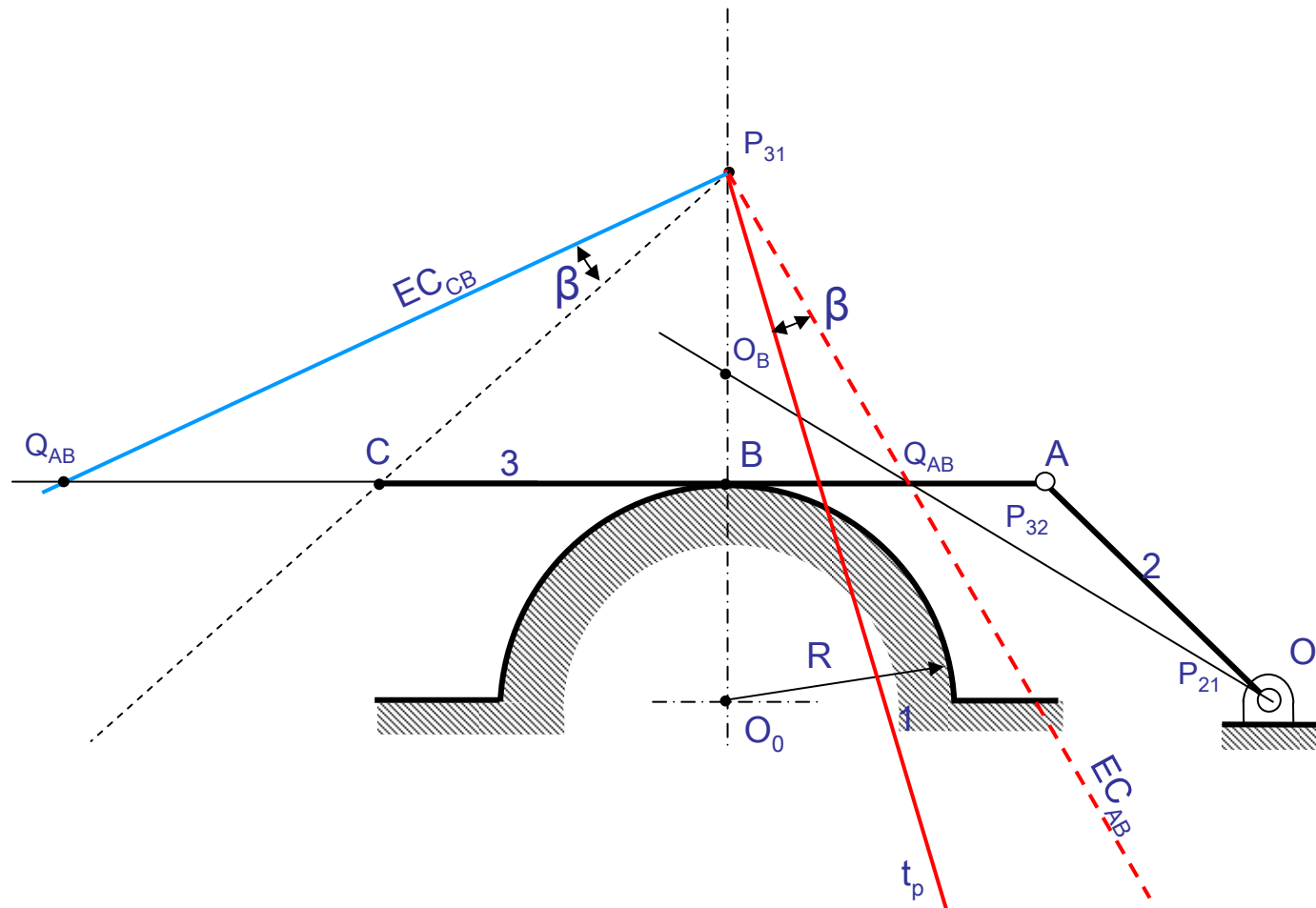
Problema 2

Apartado 2



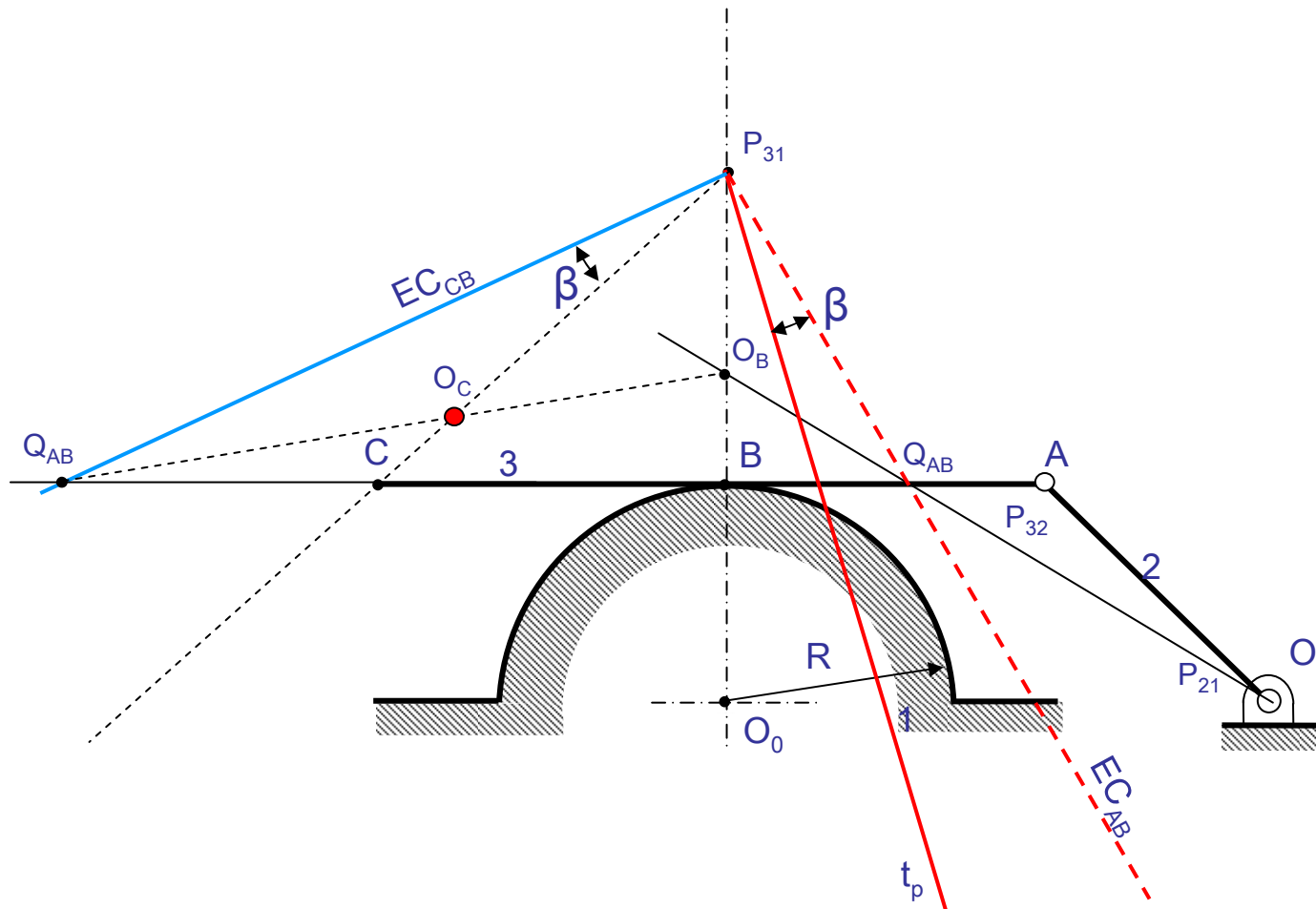
Problema 2

Apartado 2



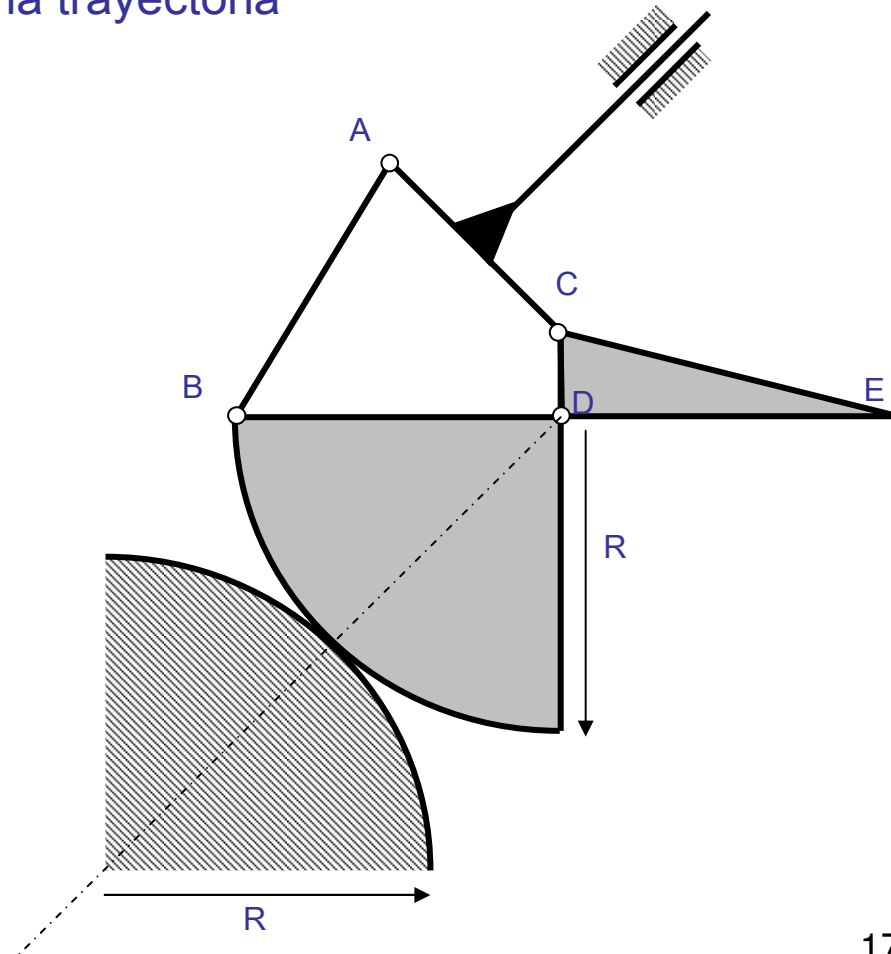
Problema 2

Apartado 2

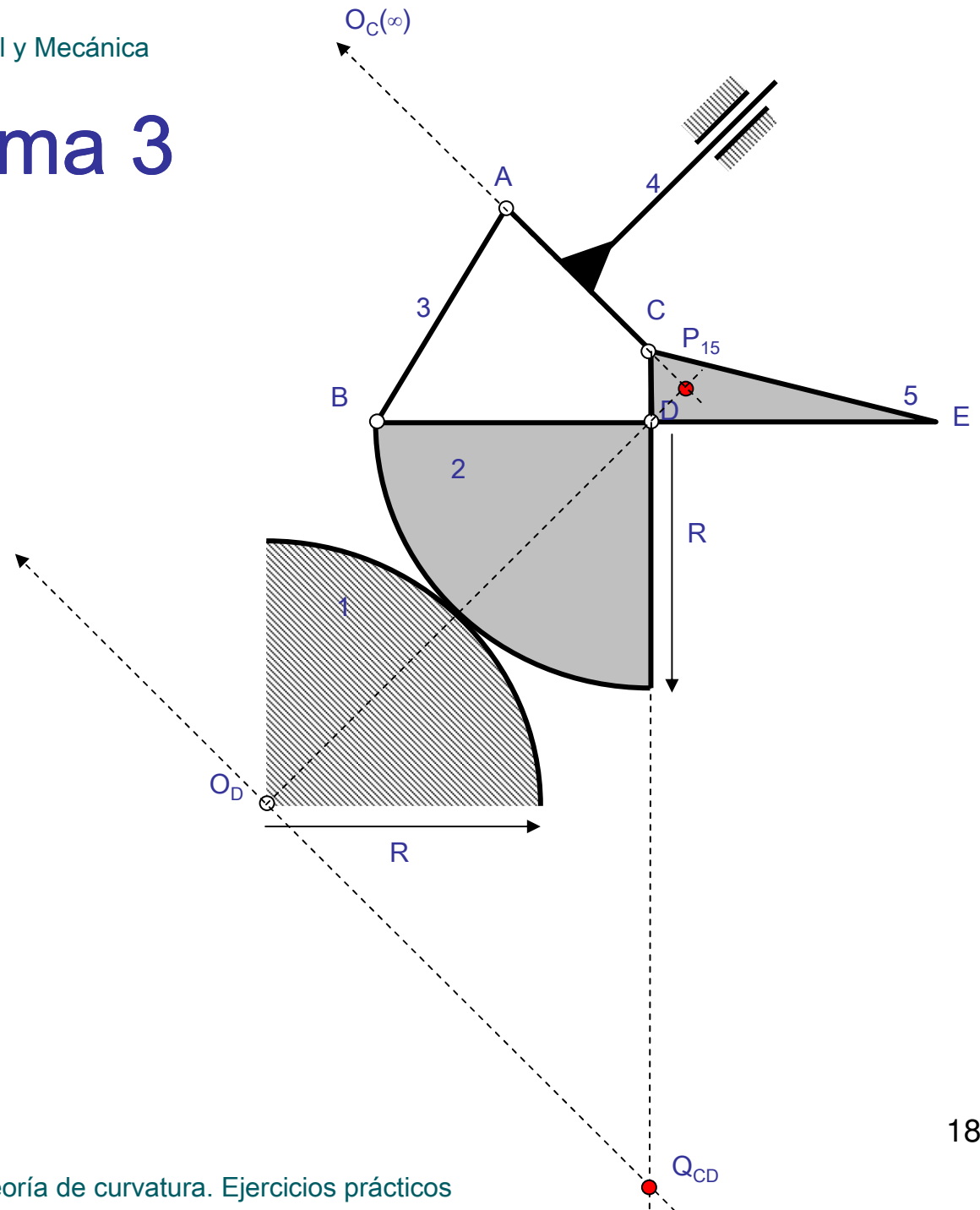


Problema 3

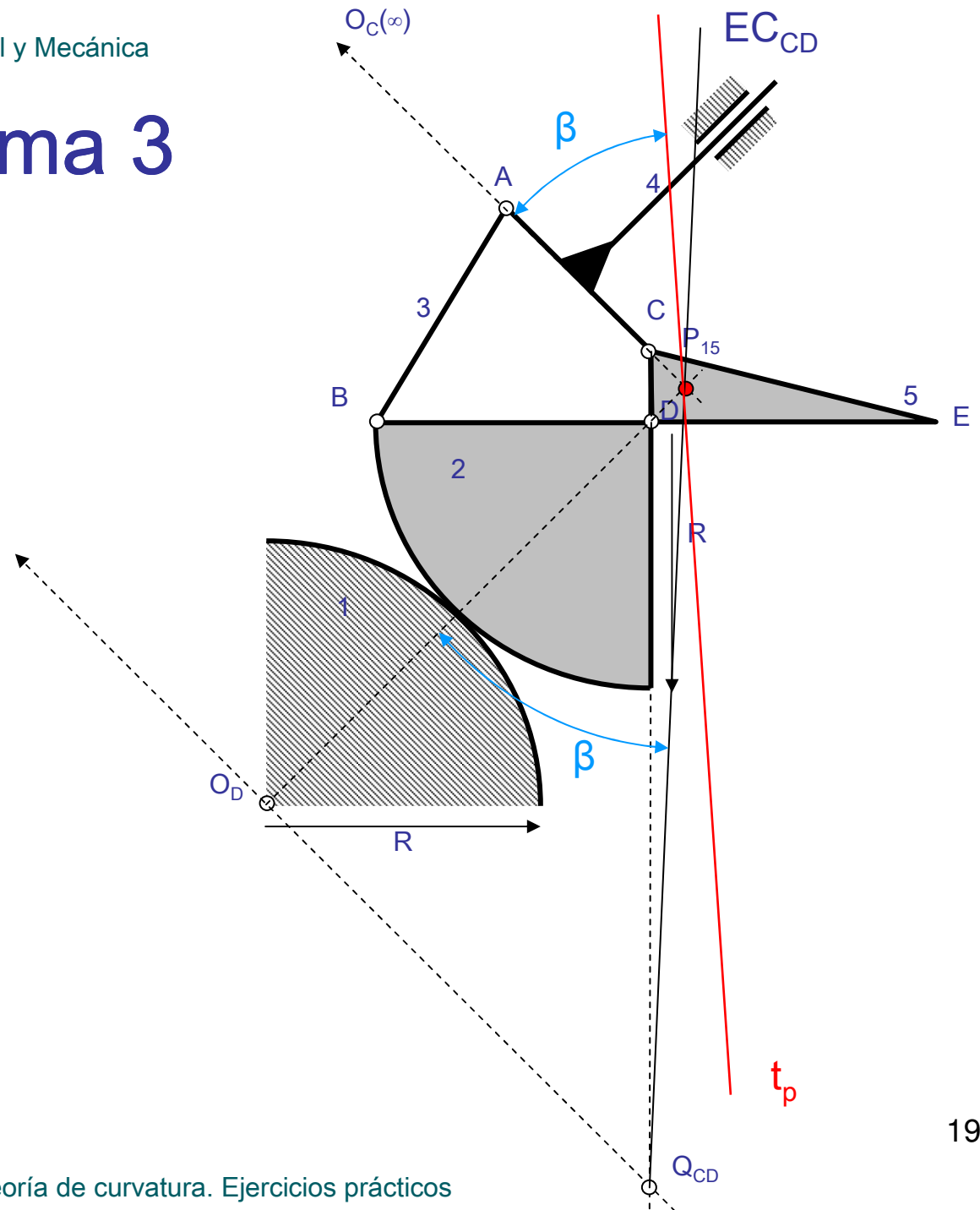
Dado el mecanismo plano de la figura se pide determinar el centro de curvatura de la trayectoria del vértice E.



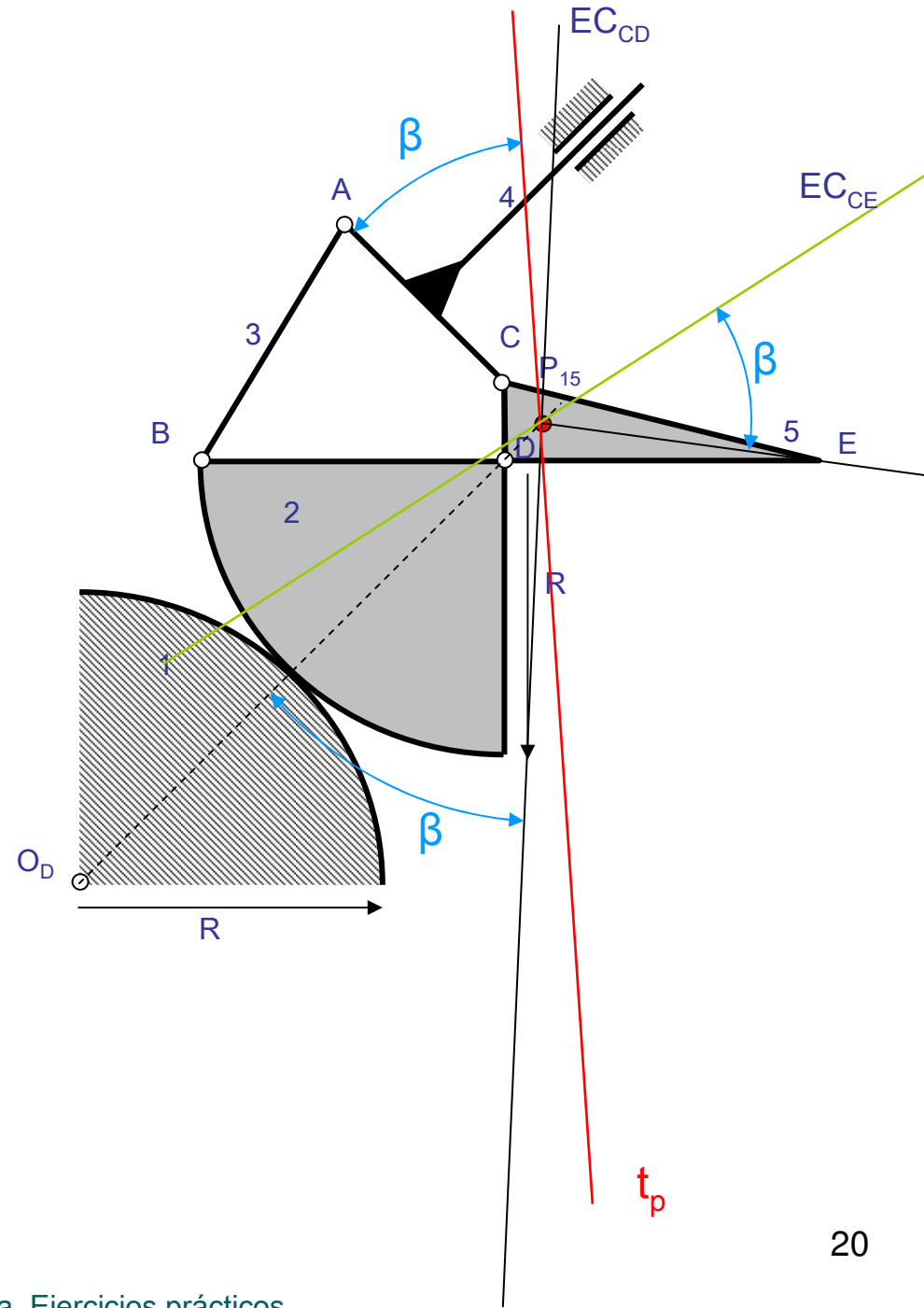
Problema 3



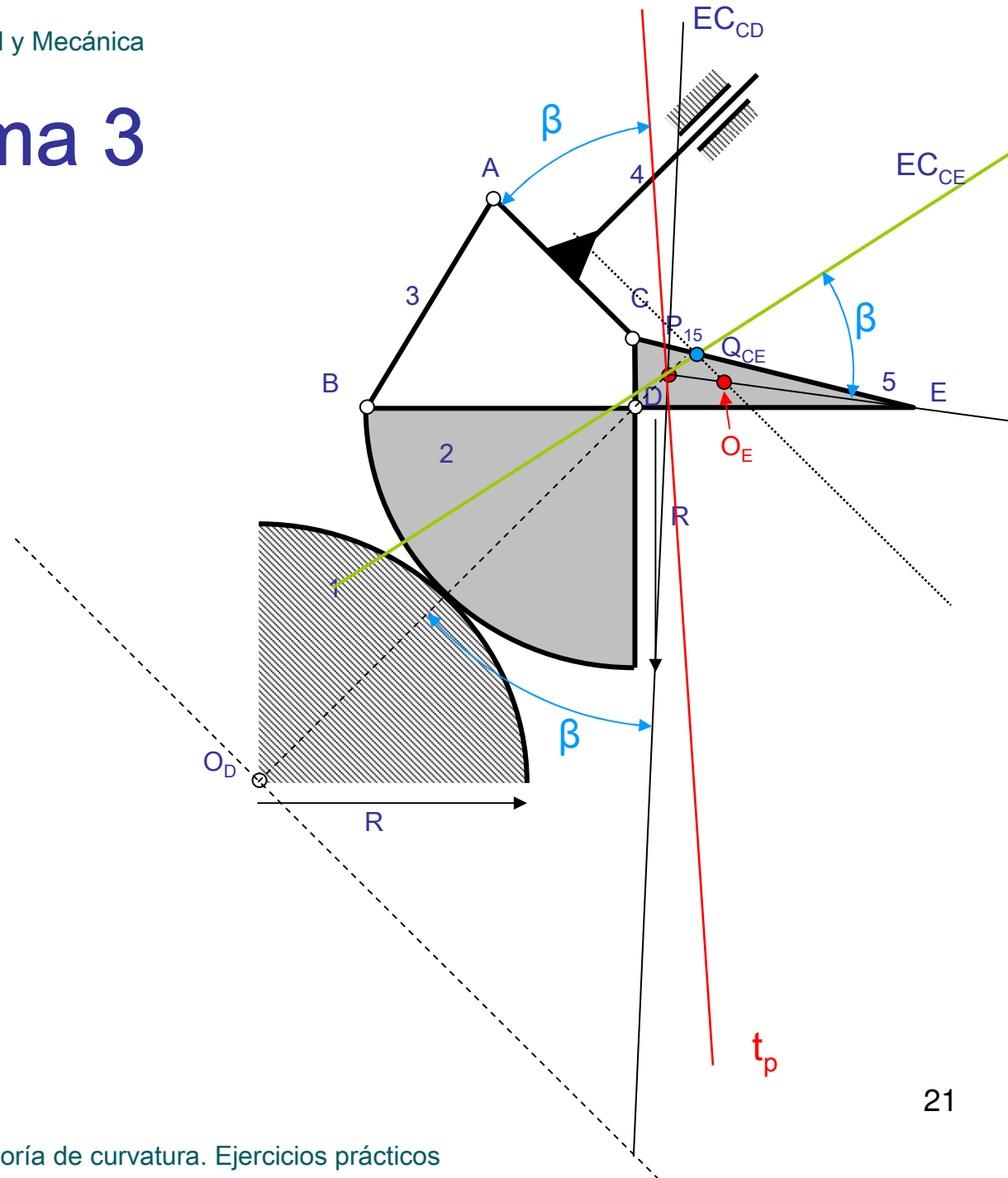
Problema 3



Problema 3

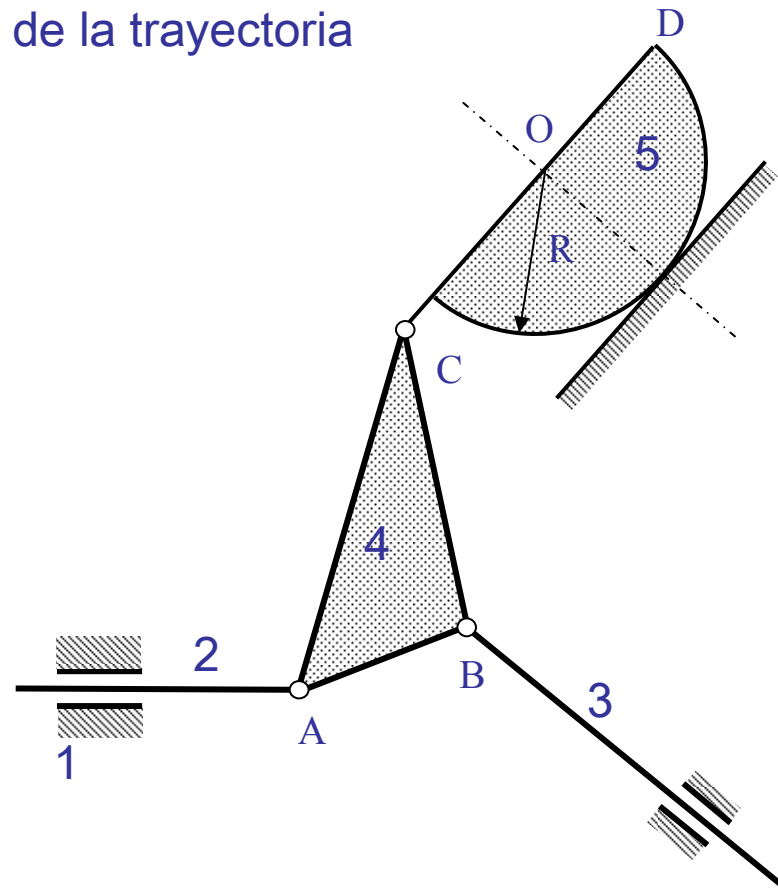


Problema 3



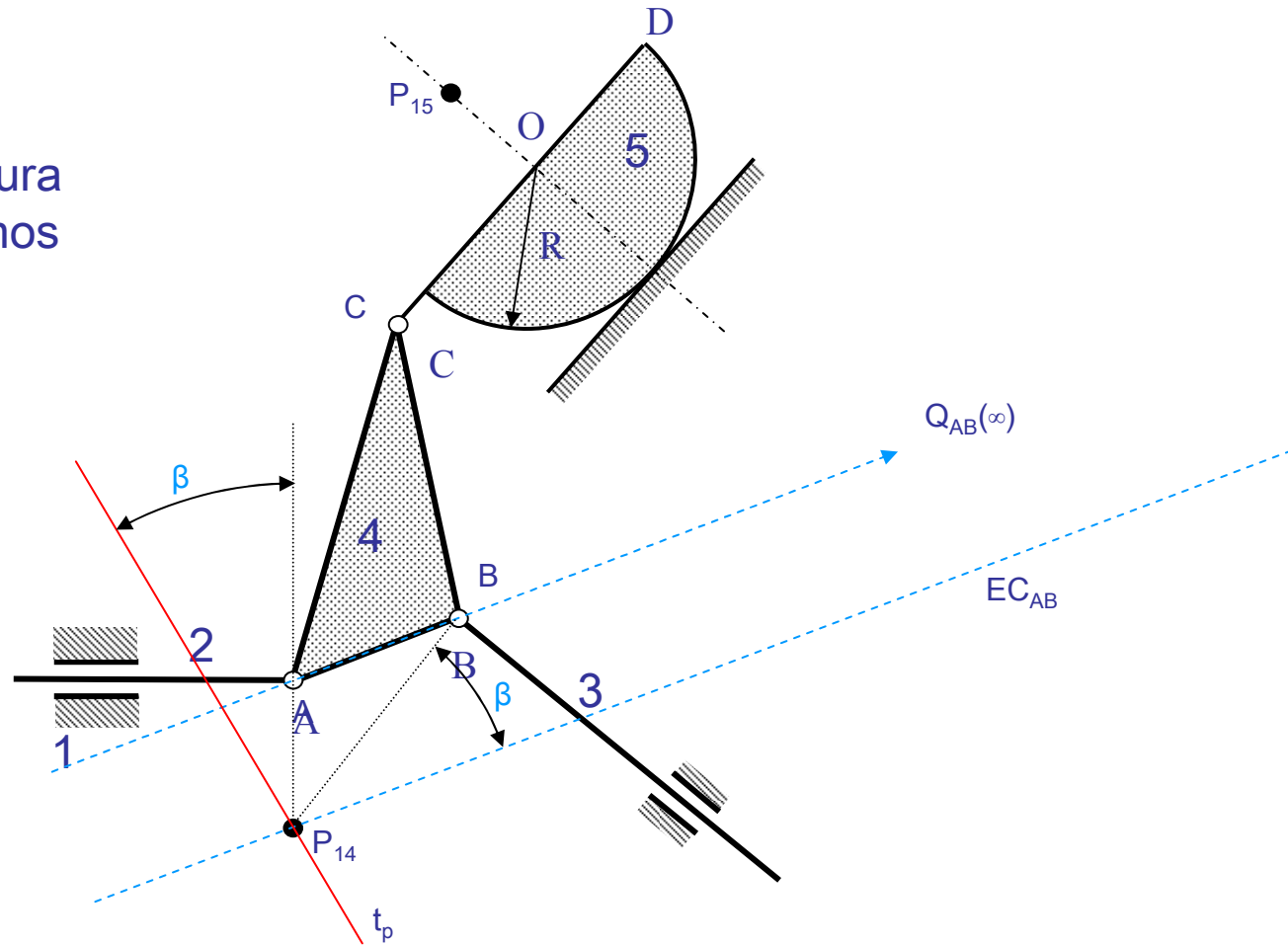
Problema 4

Dado el mecanismo plano de la figura se pide determinar el centro de curvatura de la trayectoria del punto D.

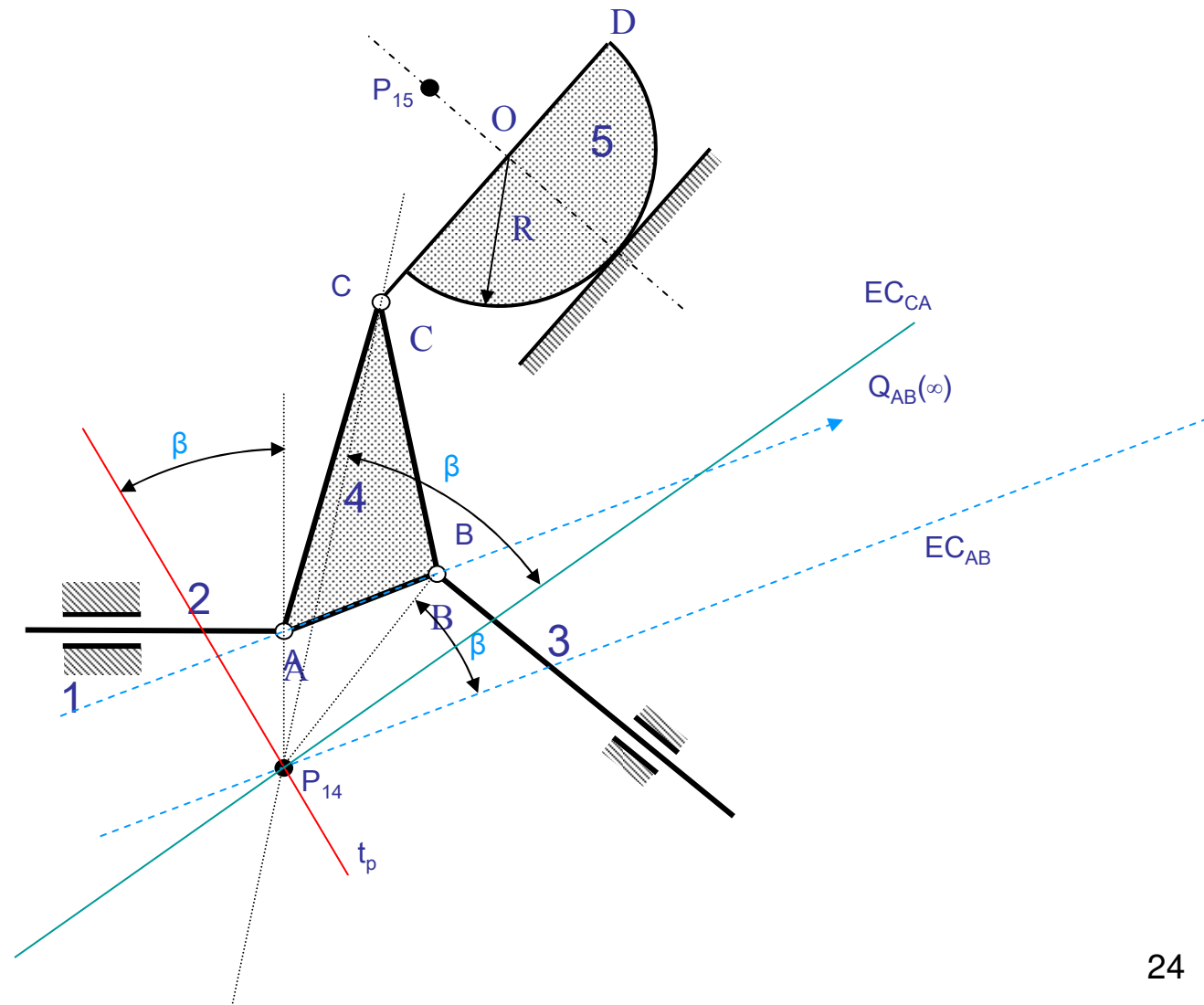


Problema 4

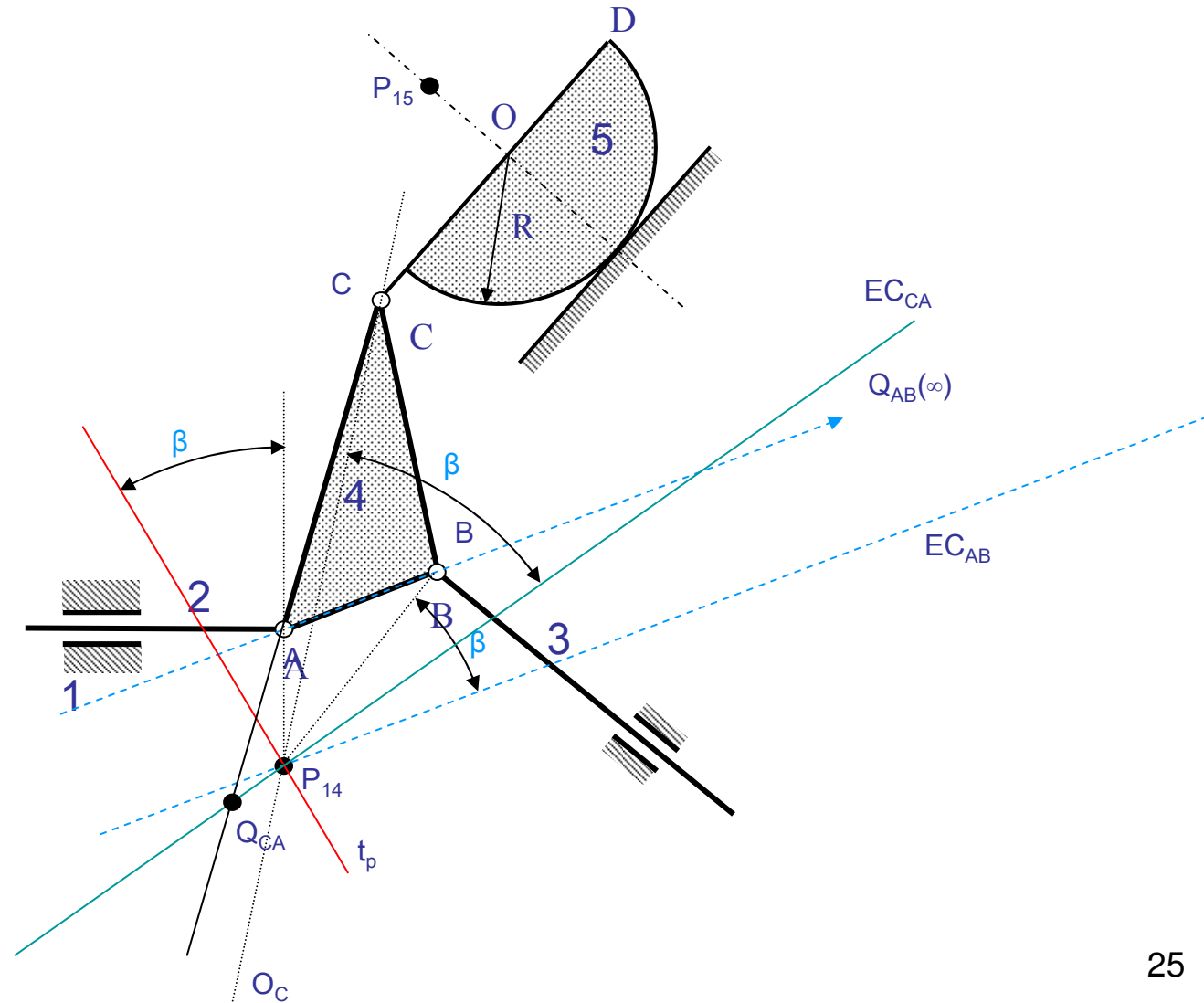
Conocidos los centros de curvatura de A y B calculamos el de C.



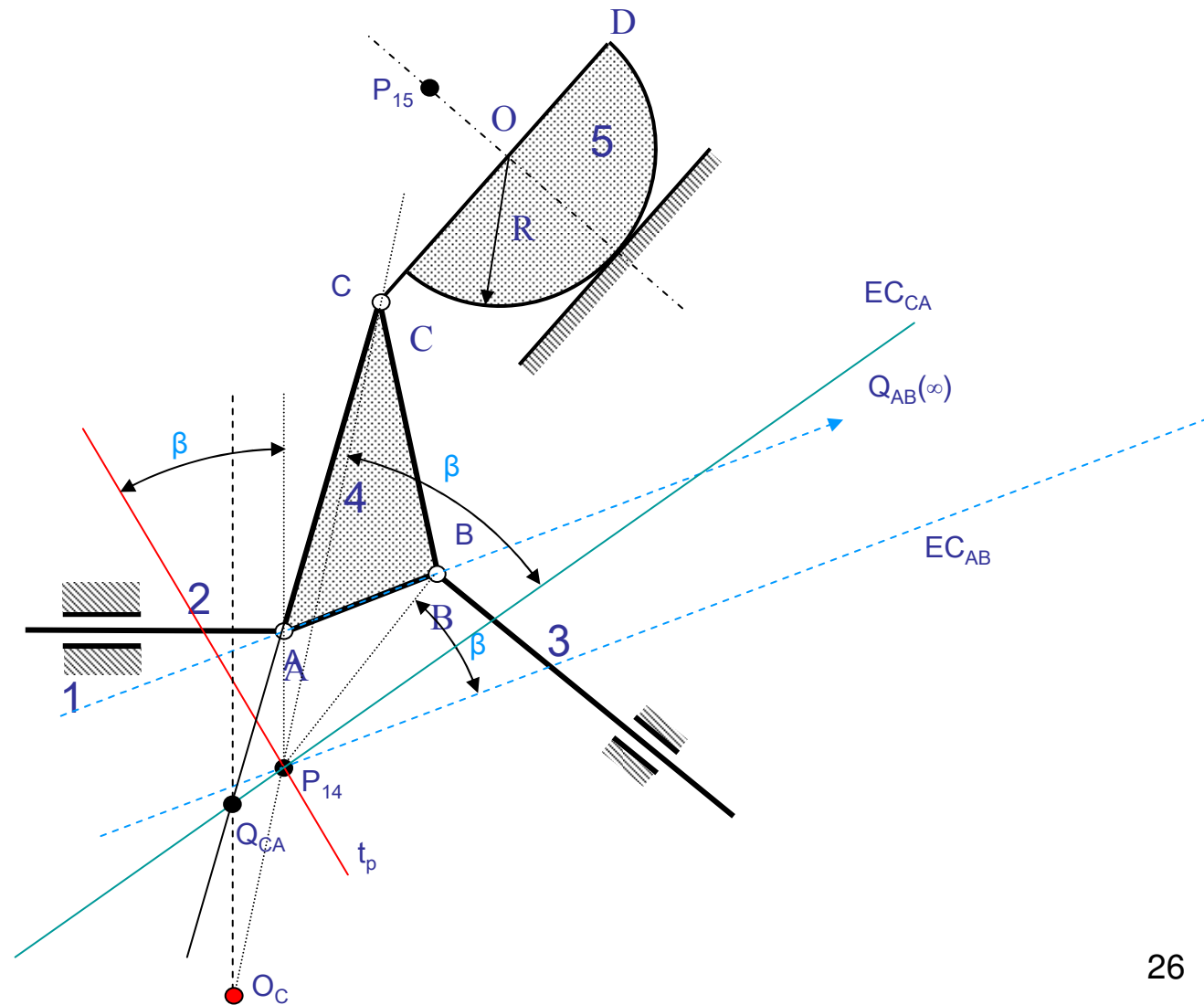
Problema 4



Problema 4

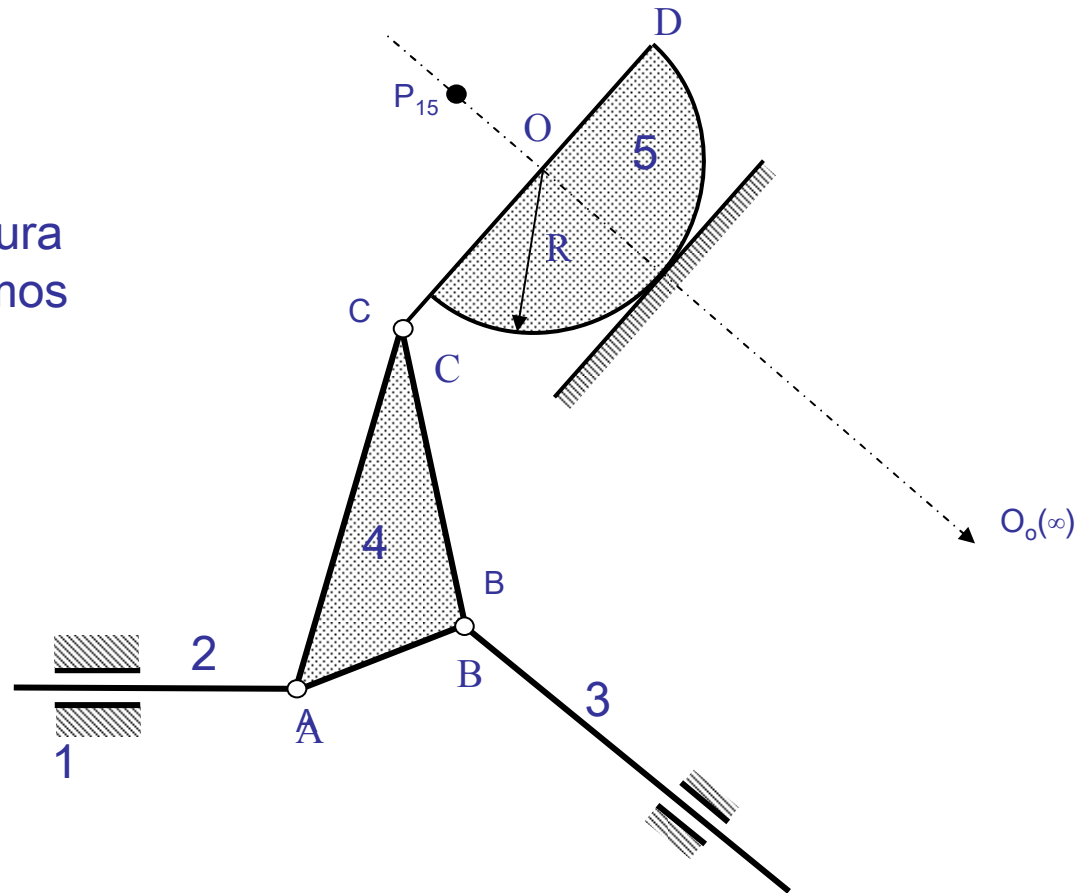


Problema 4



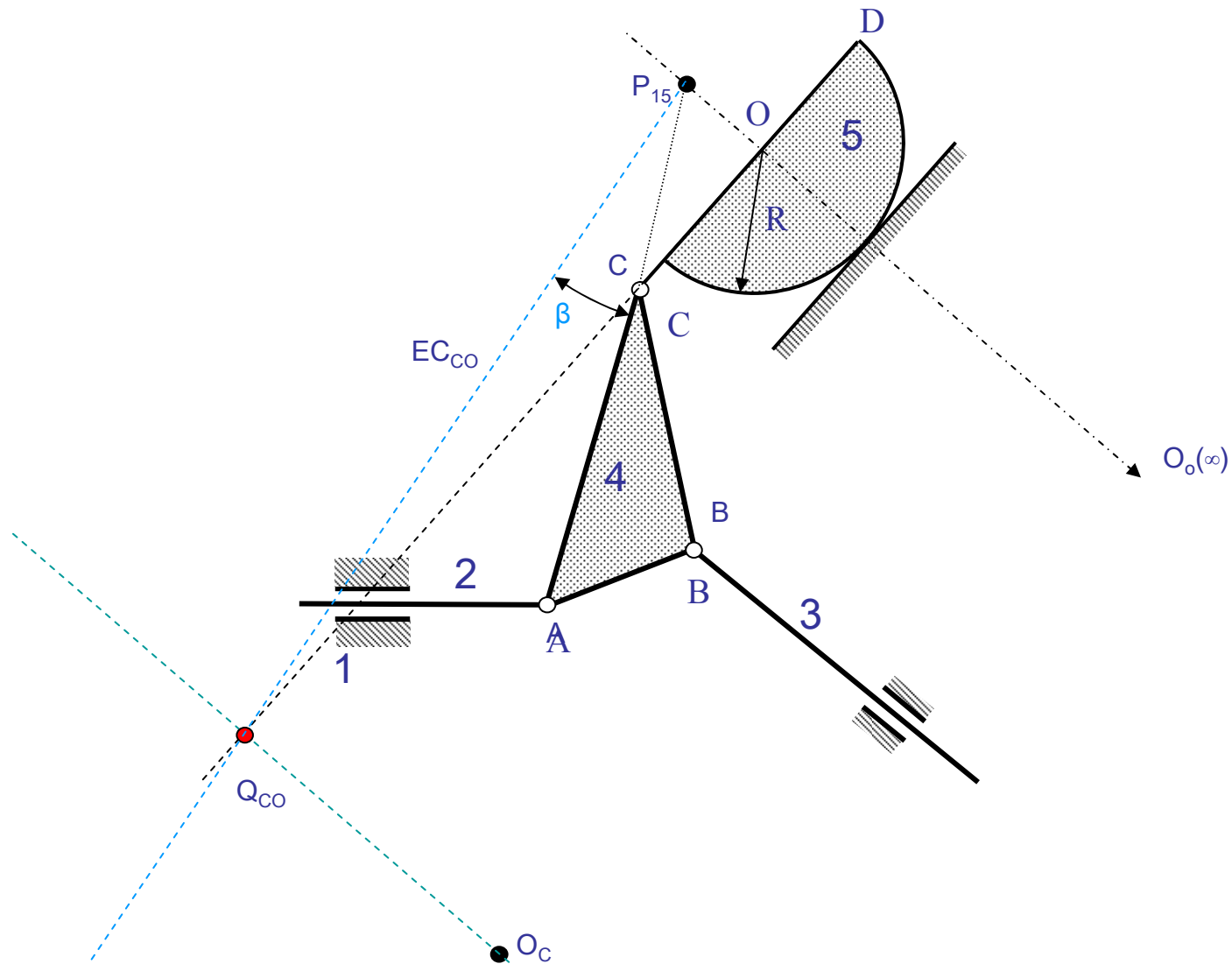
Problema 4

Conocidos los centros de curvatura de C y O calculamos el de D.

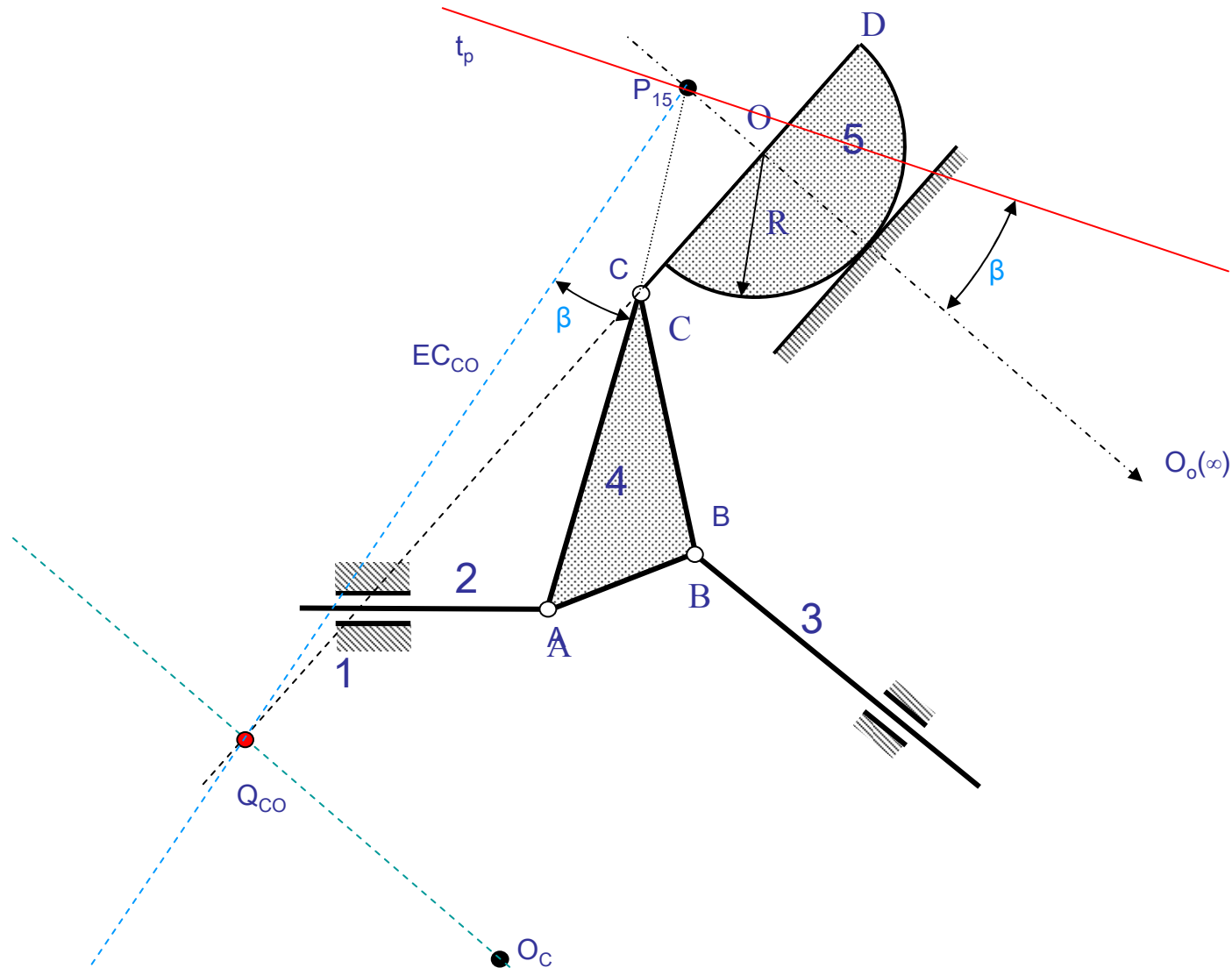


● O_C

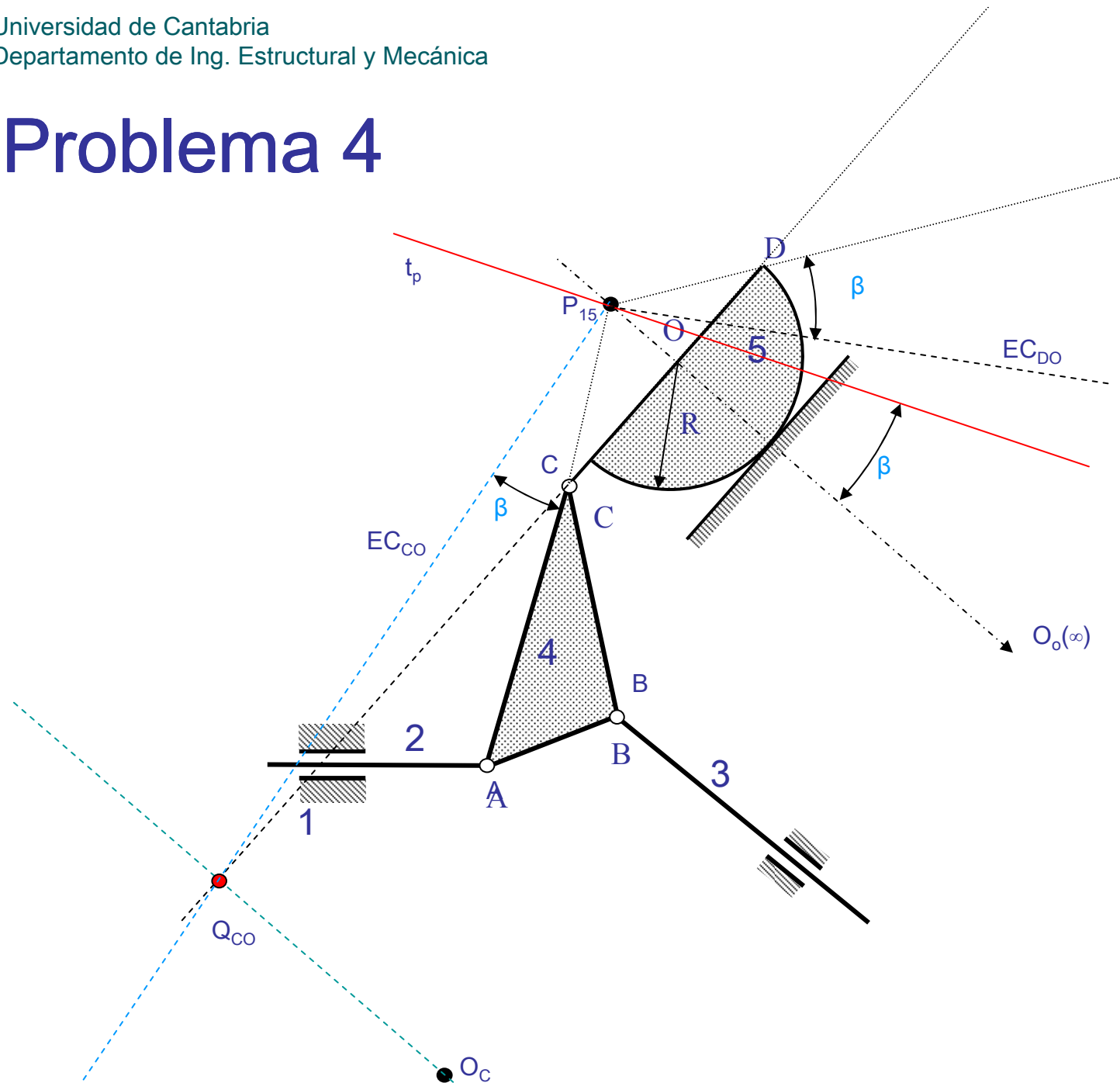
Problema 4



Problema 4



Problema 4



Problema 4

