



A bar supported by a pin connected to a smooth collar at point A , a roller at point B , and a cable at point C is in equilibrium. If the bar has a non-negligible mass, find the number of unknowns in the system.

If the x -axis is the horizontal axis and the y -axis is the vertical axis, select the unknown force reaction components for each support.

Point A : A_x

Point B : B_y

Point C : C_x

Are there any couple moments formed by the supports? No

Find the possible values of the force reactions assuming that forces are positive when directed to the right or upwards and moments are positive counterclockwise.

$$A_x: \text{All}$$

$$A_y: 0$$

$$B_x: 0$$

$$B_y: \geq 0$$

$$C_x: \leq 0$$

$$C_y: 0$$