

## Exercise 11

What restrictions must be made on  $x$ ,  $y$ , and  $z$  so that the triple  $(x, y, z)$  will represent a point on the  $y$  axis? On the  $z$  axis? In the  $xz$  plane? In the  $yz$  plane?

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### Solution

For a point on the  $y$ -axis,  $x = 0$  and  $z = 0$ :  $(0, y, 0)$ .

For a point on the  $z$ -axis,  $x = 0$  and  $y = 0$ :  $(0, 0, z)$ .

For a point in the  $xz$ -plane,  $y = 0$ :  $(x, 0, z)$ .

For a point in the  $yz$ -plane,  $x = 0$ :  $(0, y, z)$ .