



# Sistema de Coordenadas 2D e 3D

Modelagem e Aplicações Gráficas 3D

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Sistema de  
Coordenadas  
 $\mathbb{R}^n$

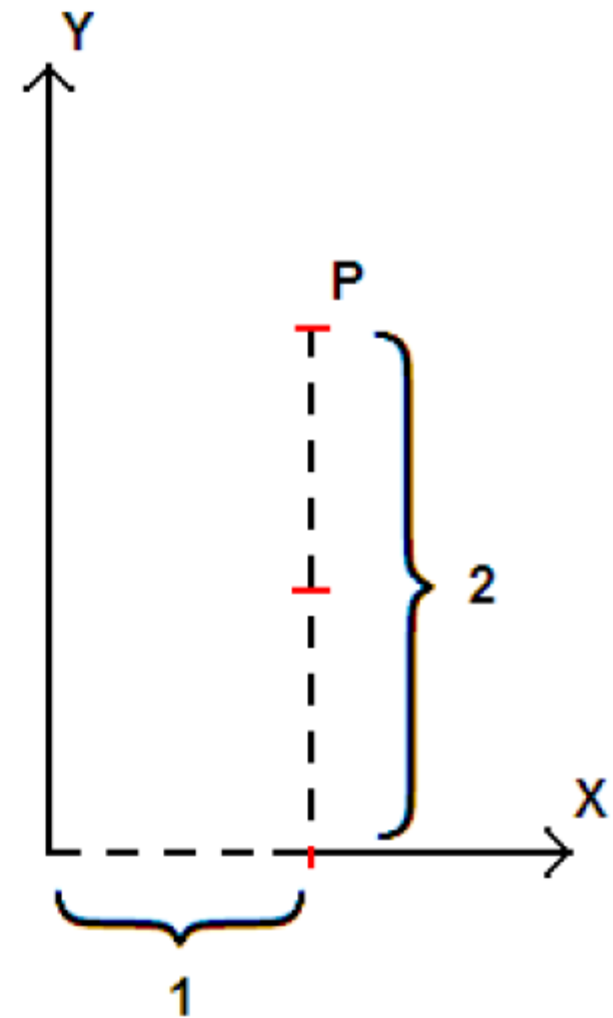
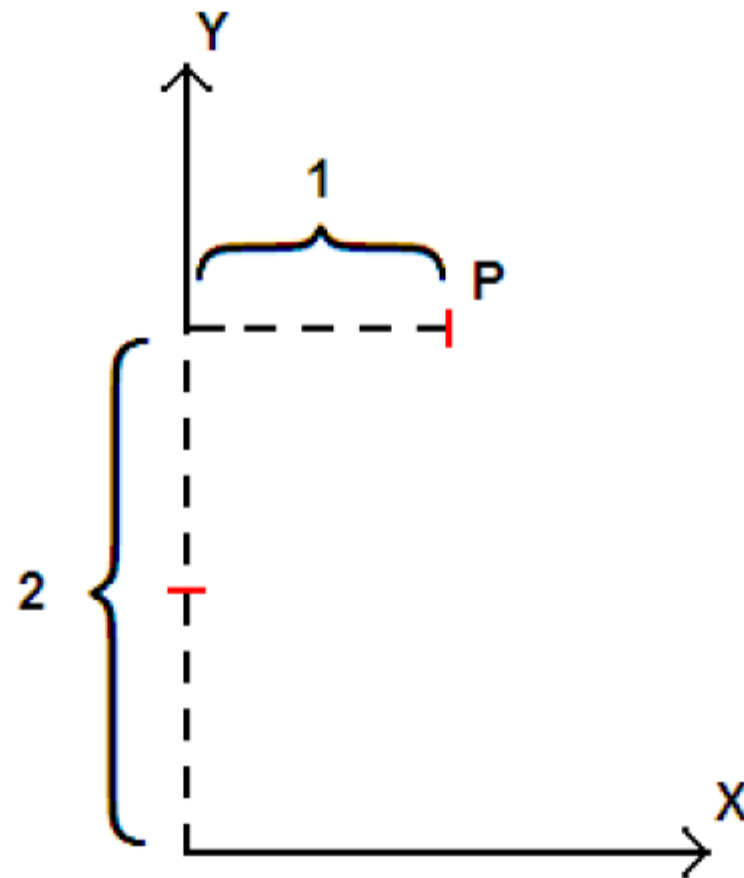
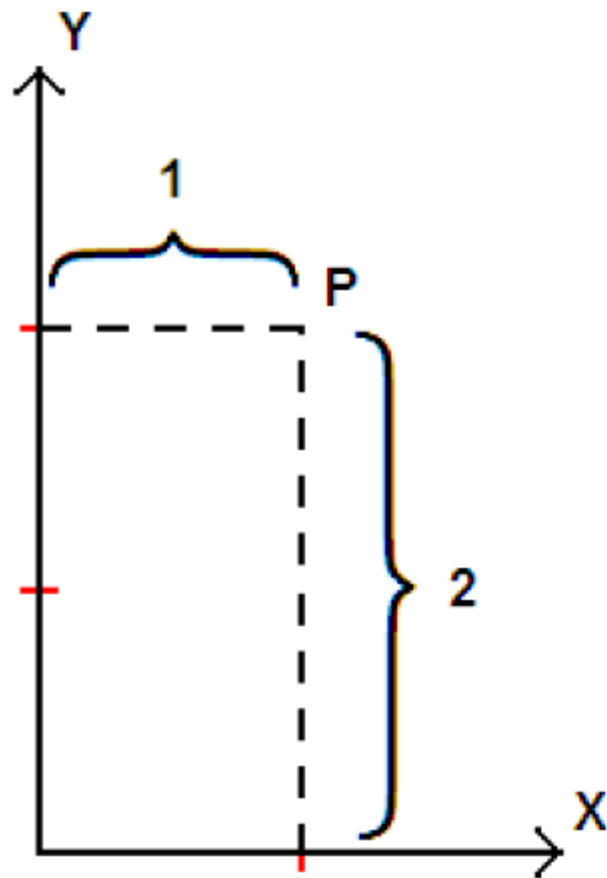
Um ponto de referência  
que corresponde a origem  
do sistema de coordenadas  
e seus respectivos eixos de  
orientação

Algebricamente:  $\mathbb{R}^2$  e  $\mathbb{R}^3$

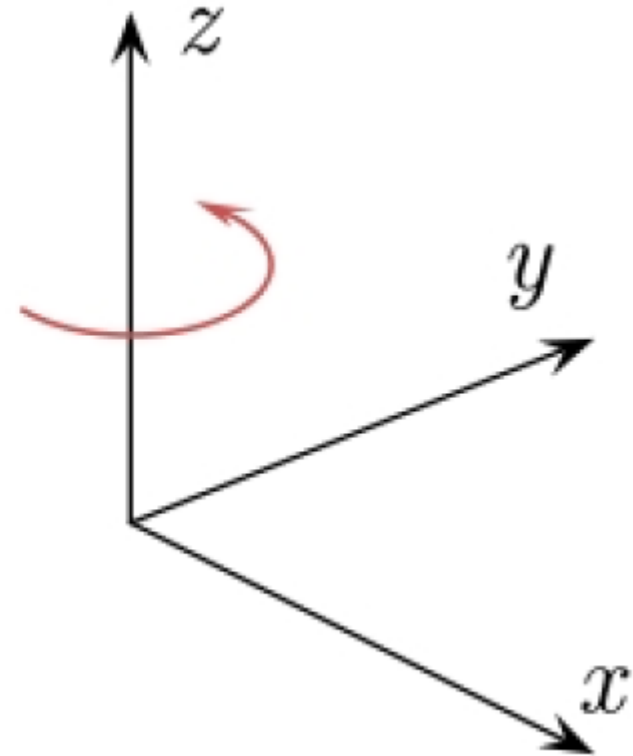
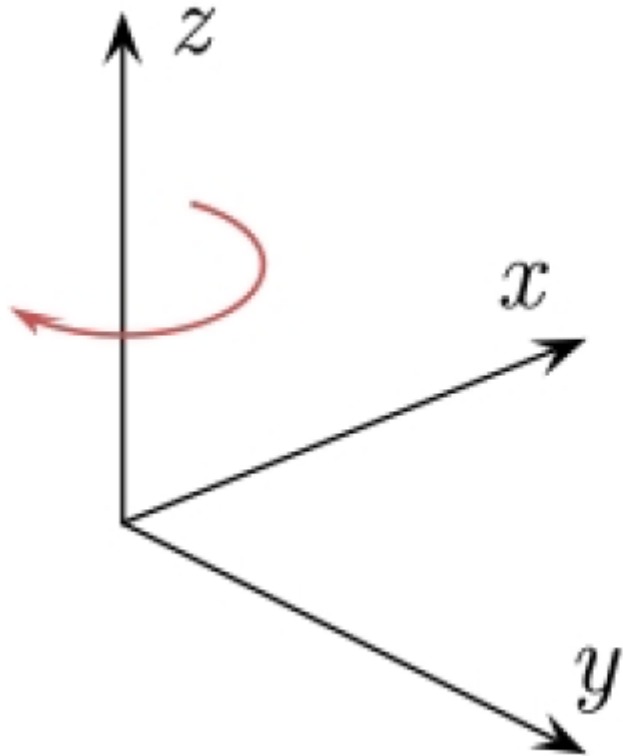
$$P = x_p \cdot X + y_p \cdot Y + O$$

$$P = x_p \cdot X + y_p \cdot Y + z_p \cdot Z + O$$

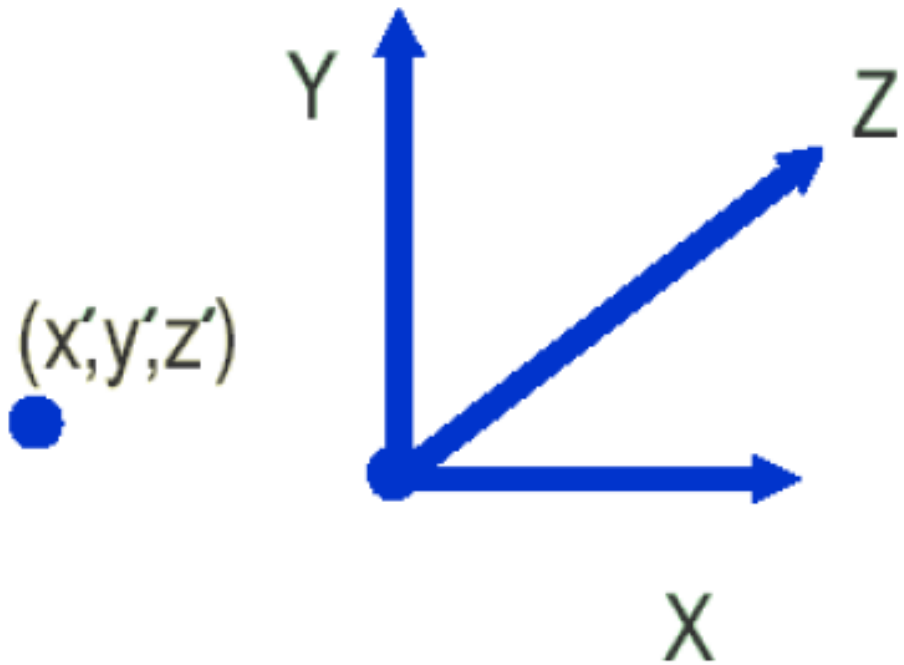
Exemplo  $P = (1, 2)$



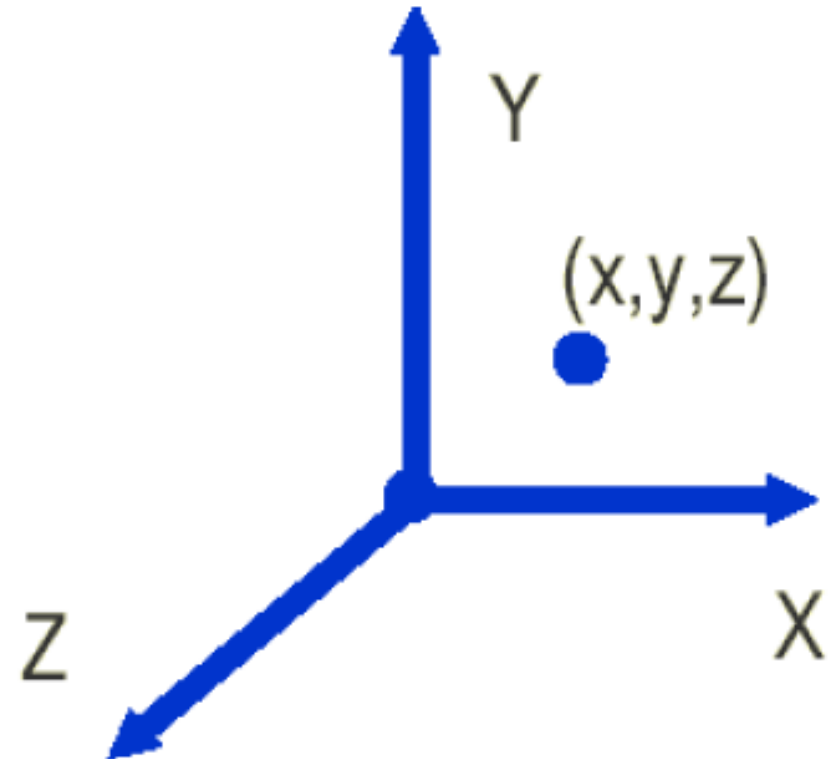
# $\mathbb{R}^3$ – Regra da Mão Esquerda e Direita



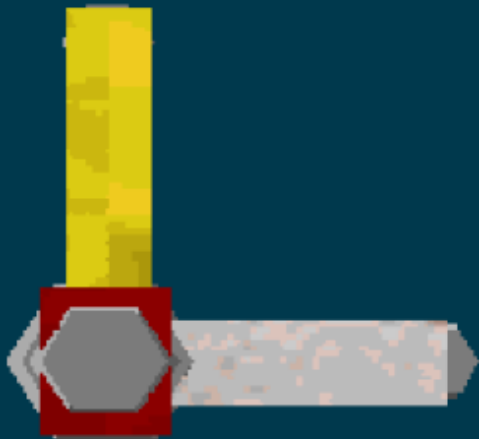
# $\mathbb{R}^3$ – Regra da Mão Esquerda e Direita



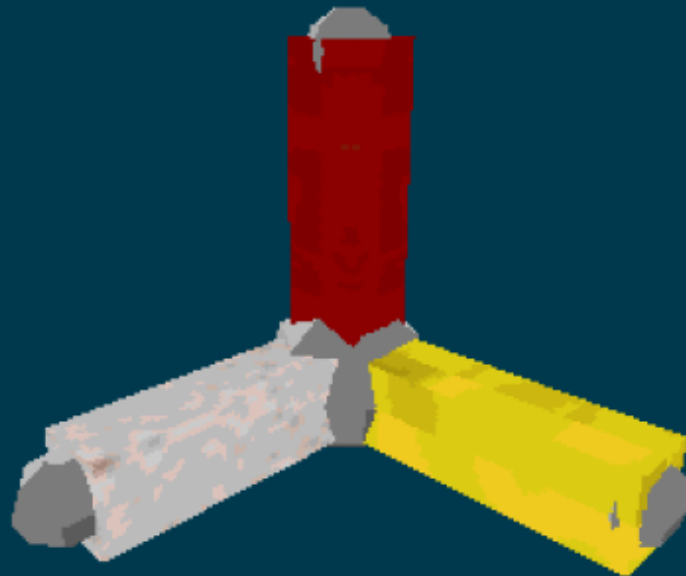
(a)



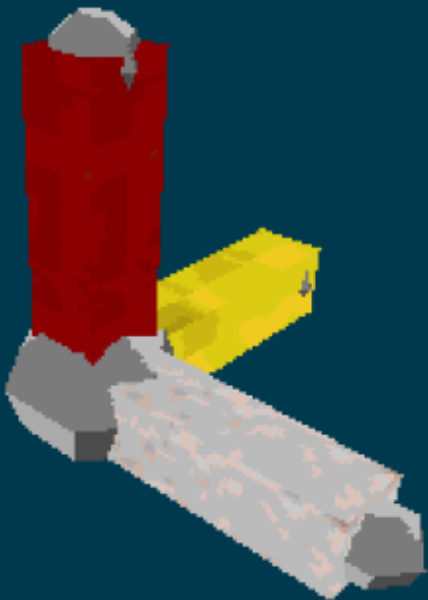
(b)



(a)



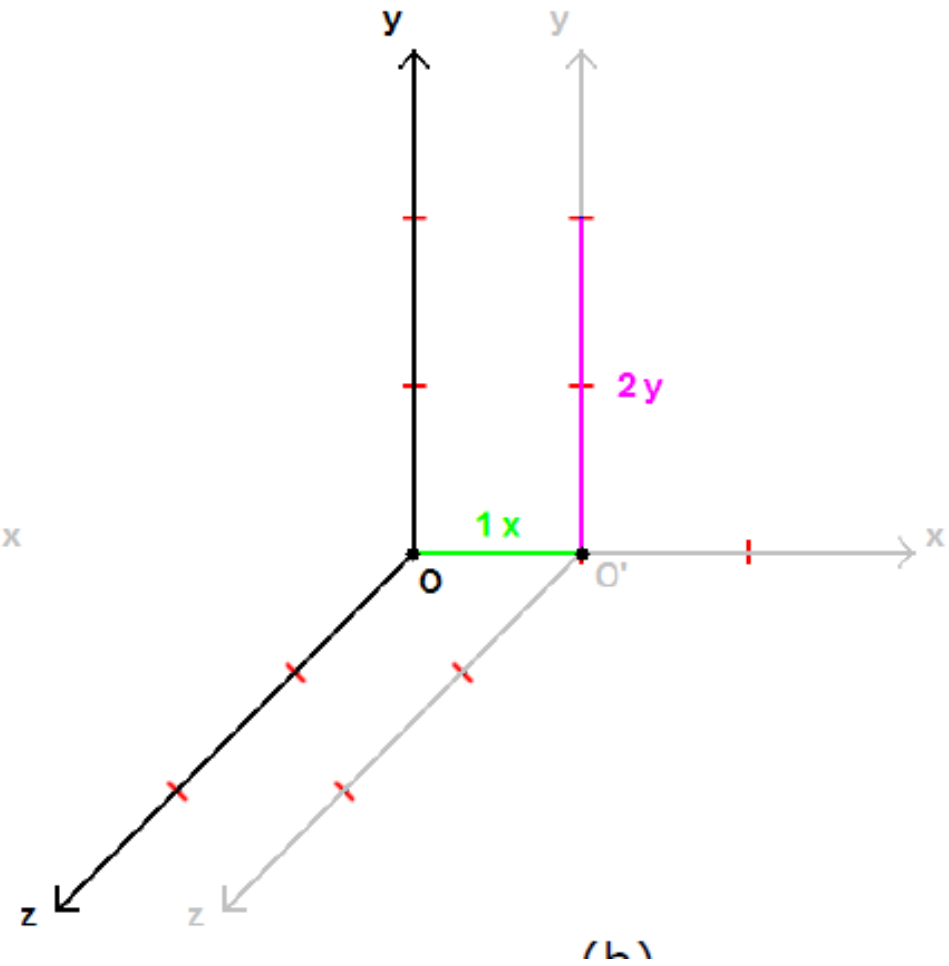
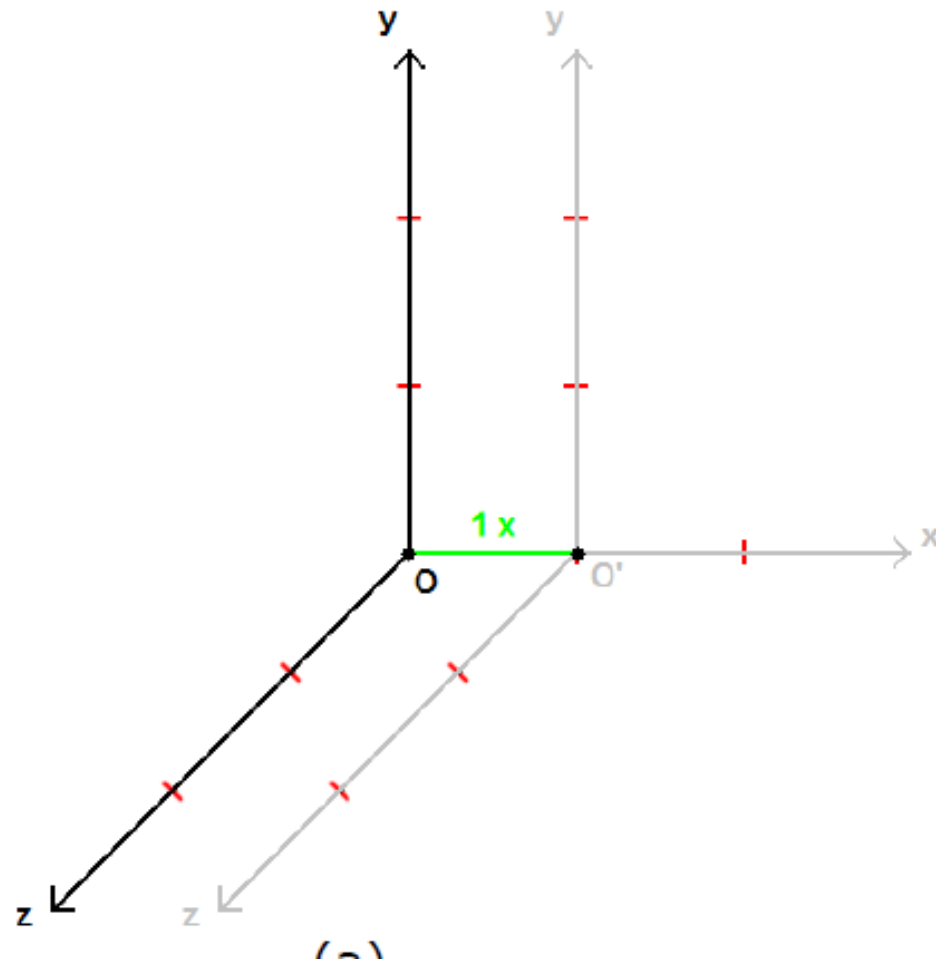
(b)



(c)

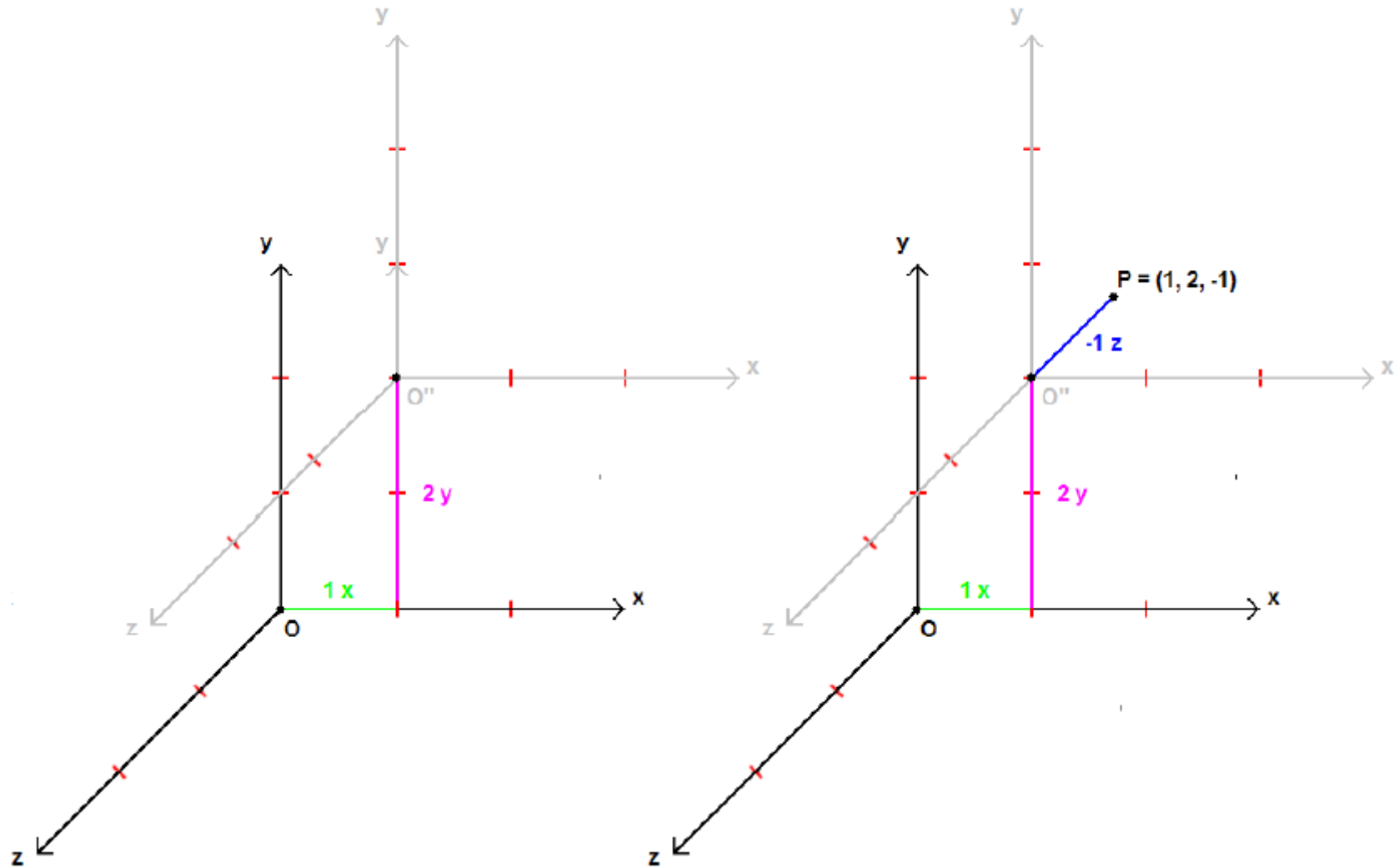
Perspectiva  
do  
Observador

Exemplo  $P = (1, 2, -1)$





Exemplo  $P = (1, 2, -1)$



Exemplo  $P = (1, 2, -1)$

