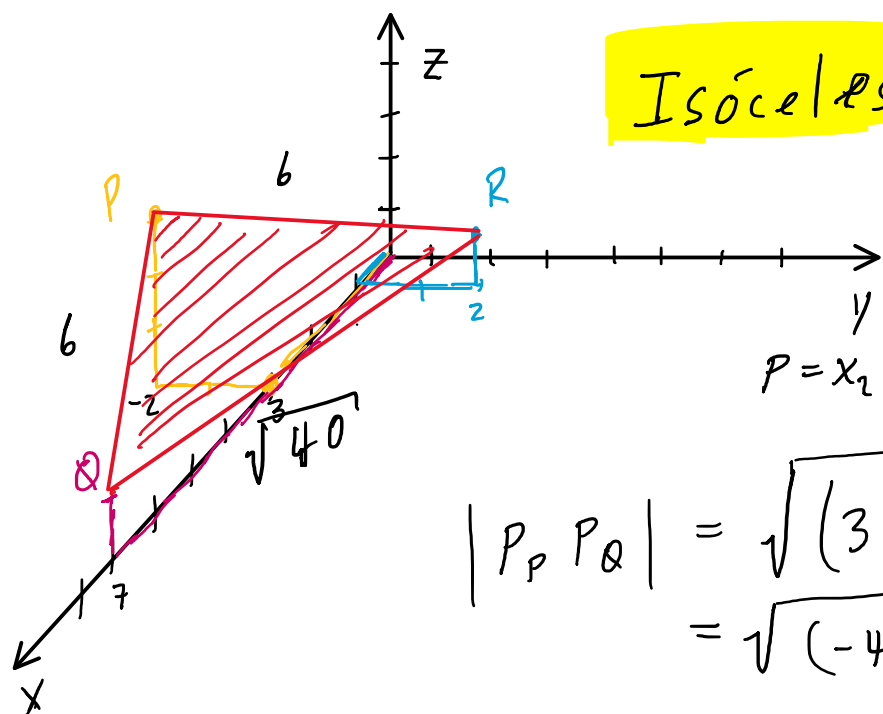


- 4) Longitud de los lados del triángulo $P(3, -2, -3)$, $Q(7, 0, 1)$, $R(1, 2, 1)$. ¿Isóceles, triángulo rectángulo?

$$|P_A \& P_B| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}$$



Isóceles

$$P = x_1 \quad Q = x_1$$

$$\begin{aligned} |P_P P_Q| &= \sqrt{(3 - 7)^2 + (-2 - 0)^2 + (-3 - 1)^2} \\ &= \sqrt{(-4)^2 + (-2)^2 + (-4)^2} = \sqrt{16 + 4 + 16} \\ &= \sqrt{36} = 6 \end{aligned}$$

$$Q = x_2 \quad R = x_1$$

$$\begin{aligned} |P_Q P_R| &= \sqrt{(7 - 1)^2 + (0 - 2)^2 + (1 - 1)^2} \\ &= \sqrt{(6)^2 + (-2)^2 + (0)^2} = \sqrt{36 + 4} = \sqrt{40} \end{aligned}$$

$$R = x_2 \quad P = x_1$$

$$\begin{aligned} |P_R P_P| &= \sqrt{(1 - 3)^2 + (2 + 2)^2 + (1 + 3)^2} \\ &= \sqrt{(2)^2 + (4)^2 + (4)^2} = \sqrt{4 + 16 + 16} = \sqrt{36} = 6 \end{aligned}$$