

Jessenia Bello q1

$$\text{Question 1) dist}(PQ) = \sqrt{(0-1)^2 + (1-0)^2 + (0-0)^2} = \sqrt{2}$$

$$\text{dist}(PR) = \sqrt{(1-0)^2 + (0-1)^2 + (1-0)^2} = \sqrt{3}$$

$$\text{dist}(QR) = \sqrt{(0-0)^2 + (0-1)^2 + (1-0)^2} = \sqrt{2}$$

∴ all of them are equal hence  
these all  $\sqrt{2}$  in length.

Question 2)

$$r_1 = (1, 0, 0) + (t, 2t, 3t)$$

$$r_2 = (1+t, 2t, 3t)$$

$$1+t = 2t \quad 2t = 3t$$

$$1+t = 2t \quad 2t = 3t$$

$$r_2 = (0, 1, 0) + (2t, t, 3t)$$

$$r_2 = (2t, 1+t, 3t)$$

$$r_2 = (2, 1+5, 35)$$

$$t = 1 = 5 = (1+1, 2(1), 3(1))$$

Point (2, 2, 3)

where they meet