β) $OA = \sqrt{x_A^2 + y_A^2 + z_A^2}$ $A(4,2,1)$ $\Gamma(3,0,3)$
$B(3,6,1)$ $\Delta(5,4,1)$

- $OA = \sqrt{4^2 + 2^2 + 1^2} = \sqrt{16+4+1} \Rightarrow$
$= \sqrt{21}$

- $OB = \sqrt{3^2 + 6^2 + 1^2} = \sqrt{9+36+1} = \sqrt{46}$

- $O\Gamma = \sqrt{3^2 + 0^2 + 3^2} = \sqrt{9+0+9} = \sqrt{18}$

- $O\Delta = \sqrt{5^2 + 4^2 + 1^2} \Rightarrow \sqrt{25+16+1} \Rightarrow \sqrt{25+12} =$
$= \sqrt{42}$

γ) $x = \frac{tX}{z}$, $y = \frac{tY}{z}$

- $x_A = \frac{1 \cdot 4}{1} = \frac{4}{1} = 4$ $y_A = \frac{1 \cdot 2}{1} = \frac{2}{1} = 2$

- $x_B = \frac{1 \cdot 3}{1} = \frac{3}{1} = 3$ $y_B = \frac{1 \cdot 6}{1} = \frac{6}{1} = 6$

- $x_\Gamma = \frac{3 \cdot 3}{3} = \frac{9}{3} = 3$ $y_\Gamma = \frac{3 \cdot 0}{3} = \frac{0}{3} = 0$

- $x_\Delta = \frac{1 \cdot 5}{1} = \frac{5}{1} = 5$ $y_\Delta = \frac{1 \cdot 4}{1} = 4$

1) $A(2,3,3)$ $B(9,L,0)$ $\Gamma(0,2,2)$ $\Delta(3,3,2)$

a. $AB = \sqrt{49+4+9} = \sqrt{62}$

$A\Gamma = \sqrt{4+1+1} = \sqrt{6}$

$A\Delta = \sqrt{1+0+36} = \sqrt{37}$

$B\Gamma = \sqrt{81+1+4} = \sqrt{86}$

$B\Delta = \sqrt{36+4+81} = \sqrt{121} = 11$

$\Gamma\Delta = \sqrt{9+1+49} = \sqrt{59}$

$A(4,2,1)$ $B(3,6,1)$ $\Gamma(3,0,3)$ $\Delta(5,4,d)$

α) $AB = \sqrt{(x_B - x_A)^2 + (y_B - y_A)^2 + (z_B + z_A)^2}$

β) $OA = \sqrt{x_A^2 + y_A^2 + z_A^2}$

γ) $x = \frac{tx}{z}$, $y = \frac{ty}{z}$

α) • $AB = \sqrt{(3-4)^2 + (6-2)^2 + (1-1)^2} \Rightarrow \sqrt{(-1)^2 + 16 + 0} \Rightarrow$
$= \sqrt{1+16} \Rightarrow \sqrt{17}$

• $A\Gamma = \sqrt{(3-4)^2 + (0-2)^2 + (3-1)^2} \Rightarrow \sqrt{(-1)^2 + 4 + 4} \Rightarrow$
$= \sqrt{1+4+4} \Rightarrow \sqrt{9} = 3$

• $A\Delta = \sqrt{(5-4)^2 + (4-2)^2 + (d-1)^2} \Rightarrow \sqrt{(1)^2 + 4 + 0} \Rightarrow \sqrt{5}$

• $B\Gamma = \sqrt{(3-3)^2 + (0-6)^2 + (3-1)^2} \Rightarrow \sqrt{0 + 36 + 4} \Rightarrow \sqrt{40}$

• $B\Delta = \sqrt{(5-3)^2 + (4-6)^2 + (d-1)^2} \Rightarrow \sqrt{4 + 4 + 0} \Rightarrow \sqrt{8}$

• $\Gamma\Delta = \sqrt{(5-3)^2 + (4-0)^2 + (d-3)^2} \Rightarrow \sqrt{4 + 16 + 4} \Rightarrow \sqrt{24}$