

36
164414003m

$$|X_{\Delta}^*| = \frac{f |X_{\Delta'}|}{Z_{\Delta'}} = \frac{1 \cdot 0}{2} = 0$$

$$|Y_A^*| = \frac{f |Y_{A'}|}{Z_{A'}} = \frac{1 \cdot 2}{10} = \frac{1}{5}$$

$$|Y_B^*| = \frac{f |Y_{B'}|}{Z_{B'}} = \frac{1 \cdot 6}{8} = \frac{3}{4}$$

$$|Y_C^*| = \frac{f |Y_{C'}|}{Z_{C'}} = \frac{1 \cdot 4}{-4} = -1$$

$$|Y_D^*| = \frac{1 \cdot 2}{4} = \frac{1}{2}$$

~~$$BC = \sqrt{6 - 2^2 + (0 - 3)^2 + (0 - 4)^2}$$~~

$$BC = \sqrt{4 + 9 + 16}$$

$$BC = 5,39m$$

$$r_c = 3m$$

$$\Delta C = 2,23m$$

② Da man die ~~Abstände~~
 Gew $A'(-2, 2, 10)$ $B'(4, 6, 8)$
 $F'(2, 4, -4)$ $\Delta'(0, 2, 4)$

$$|X_A^*| = f \frac{|X_{A'}|}{z_{A'}} = \frac{1 \cdot 2}{10} = \frac{1}{5} = |X_{A'}|$$

$$|X_B^*| = f \frac{|X_{B'}|}{z_{B'}} = \frac{1 \cdot 4}{8} = \frac{1}{2} = |X_{B'}|$$

$$|X_F^*| = f \frac{|X_{F'}|}{z_{F'}} = \frac{1 \cdot 2}{-4} = -\frac{1}{2} = |X_{F'}|$$

ACM mthina → nixolkn ovokooon



6) Η απόσταση από το οπτικό κέντρο βρίσκεται υπολογίζοντας τις αποστάσεις ~~AC, BC, ΓC, ΔC~~
AC, BC, ΓC, ΔC

$$C(0,0,0)$$

$$AC = \sqrt{(0-1)^2 + (0-1)^2 + (0-5)^2}$$

$$AC = \sqrt{1+1+25}$$

$$\cancel{AC = 2,64m} \quad AC = 5,1961m$$

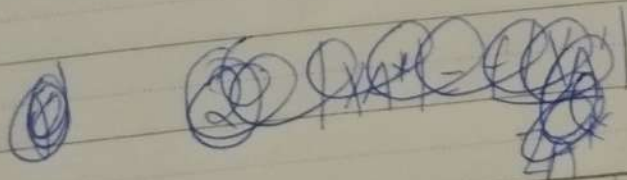
$$BC = \sqrt{(0-2)^2 + (0-3)^2 + (0-4)^2}$$

$$BC = \sqrt{4+9+16}$$

$$BC = 5,39m$$

$$\Gamma C = 3m$$

$$\Delta C = 2,23m$$



$$d_{BG} = \sqrt{(1-2)^2 + (2-3)^2 + (-2-4)^2}$$

$$d_{BG} = \sqrt{1+1+36}$$

$$d_{BG} = 6,164414003 \text{ m}$$

$$d_{BD} = \sqrt{(0-2)^2 + (1-3)^2 + (2-4)^2}$$

$$= \sqrt{4+4+4}$$

$$= \sqrt{12}$$

$$d_{BD} = 3,464101615 \text{ m}$$

$$d_{GD} = \sqrt{(0-1)^2 + (1-2)^2 + (2-2)^2}$$

$$d_{GD} = \sqrt{2}$$

$$d_{GD} = 1,414213562 \text{ m}$$

$$d) \quad |x|' = \frac{f(x)}{2} \quad |y|' = \frac{f(y)}{2}$$

so f eval 1

$$|x_A'| = f \frac{|x_A|}{2A} = \frac{1 \cdot 1}{5} = \frac{1}{5}$$

$$|x_B'| = \frac{1 \cdot 2}{4} = \frac{2}{4} = \frac{1}{2}$$

$$|x_G'| = \frac{1 \cdot 1}{-2} = -\frac{1}{2}$$

$$|x_D'| = \frac{1 \cdot 0}{2} = 0$$

$$|y_A'| = f \frac{|y_A|}{2A} = \frac{1 \cdot 1}{5} = \frac{1}{5}$$

$$|y_B'| = \frac{1 \cdot 3}{4} = \frac{3}{4}$$

$$|y_D'| = \frac{1 \cdot 1}{2} = \frac{1}{2}$$

$$|y_G'| = \frac{1 \cdot 2}{-2} = -1$$

Φωτογραμμετρία 1

Δοκίμιος Βαθμής
2239/1019

1) $(-1, 1, 5)$ A

$(2, 3, 4)$ B

$(1, 2, -2)$ Γ

$(0, 1, 2)$ Δ



α) Για να υπολογίσουμε την μετφε τους απόσταση θα εφαρμόσουμε τους εξής τύπους

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

$$d_{AB} = \sqrt{(2 - (-1))^2 + (3 - 1)^2 + (4 - 5)^2}$$

$$d_{AB} = \sqrt{9 + 4 + 1}$$

$$d_{AB} = \sqrt{14}$$

$$d_{AB} = 3,741657387 \text{ m}$$

$$d_{AG} = \sqrt{(1 - (-1))^2 + (2 - 1)^2 + (-2 - 5)^2}$$

$$d_{AG} = \sqrt{4 + 1 + 49}$$

$$d_{AG} = \sqrt{54}$$

$$d_{AG} = 7,348469228 \text{ m}$$

$$d_{AD} = \sqrt{(0 - (-1))^2 + (1 - 1)^2 + (2 - 5)^2}$$

$$d_{AD} = \sqrt{1 + 9}$$

$$d_{AD} = \sqrt{10}$$

$$d_{AD} = 3,16227766 \text{ m}$$