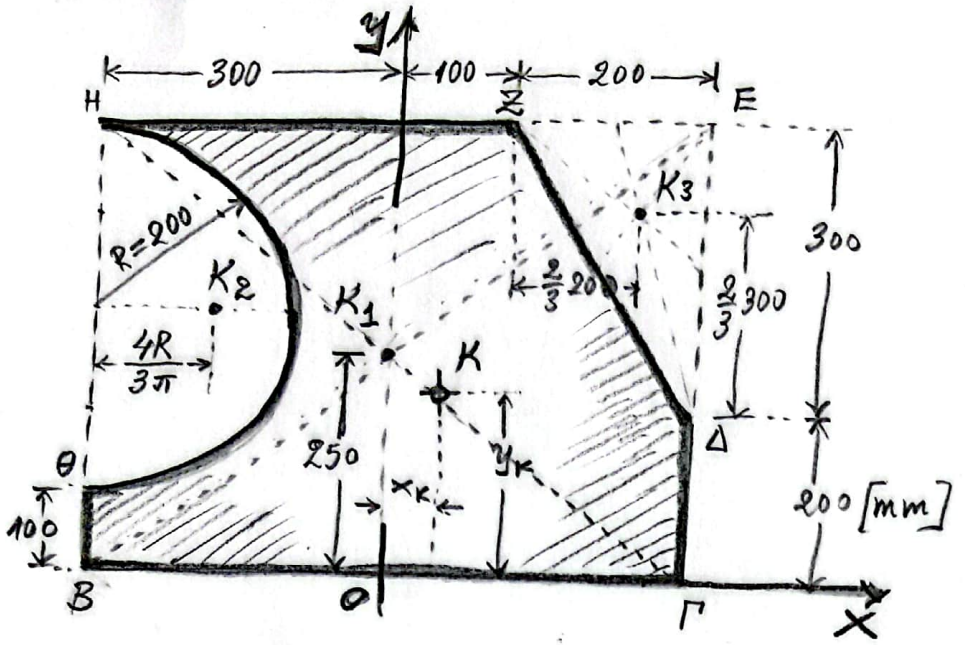
ΑΣΚΗΣΗ 5-5



Κεντροειδές εθιφάνειας ΒΓΔΖΗΘ (διακριτών τμημάτων)

Η συγκεκριμένη εθιλογή του Oxy, είναι για να φανούν οι αλγεβρικές τιμές των x_{K_i}, y_{K_i}

$$A_1 = 600 \times 500 = 300 \times 10^3 \text{ mm}^2$$

$$x_{K_1} = 0 \text{ mm}, \quad y_{K_1} = \frac{500}{2} = 250 \text{ mm}$$

ΒΓΕΗ

$$A_2 = -\frac{\pi R^2}{2} = -62.83 \times 10^3 \text{ mm}^2$$

$$x_{K_2} = -\left(300 - \frac{4R}{3\pi}\right) = -215.12 \text{ mm}, \quad y_{K_2} = 100 + R = 300 \text{ mm}$$

ΗΘ

$$A_3 = -\frac{1}{2} \times 200 \times 300 = -30 \times 10^3 \text{ mm}^2$$

$$x_{K_3} = 100 + \frac{2}{3}200 = 233.33 \text{ mm}, \quad y_{K_3} = 200 + \frac{2}{3}300 = 400 \text{ mm}$$

ΔΕΖ

$$x_K = \frac{\Sigma x_{K_i} A_i}{\Sigma A_i} = \frac{0 \times (300 \times 10^3) + (-215.12) \times (-62.83 \times 10^3) + 233.33 \times (-30 \times 10^3)}{(300 \times 10^3) + (-62.83 \times 10^3) + (-30 \times 10^3)} =$$

$$= \boxed{31.45 \text{ mm}}$$

$$y_K = \frac{\Sigma y_{K_i} A_i}{\Sigma A_i} = \frac{250 \times (300 \times 10^3) + 300 \times (-62.83 \times 10^3) + 400 \times (-30 \times 10^3)}{(300 \times 10^3) + (-62.83 \times 10^3) + (-30 \times 10^3)} =$$

$$= \boxed{213.11 \text{ mm}}$$

Σαρώθηκε με το CamScanner