

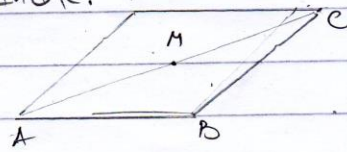
① I група Пресек дијагонала је њихово срединско. D

$$x_M = \frac{x_A + x_C}{2} = \frac{-1 + 6}{2} = \frac{5}{2}; \quad y_M = \frac{y_A + y_C}{2} = \frac{15}{2}$$

II група  $M(\frac{5}{2}, \frac{15}{2})$ , зато је:

$$x_M = \frac{x_B + x_D}{2} \quad \text{II} \cdot x_D = 2x_M - x_B = 2$$

$$y_M = \frac{y_B + y_D}{2} \quad \text{II} \cdot y_D = 2y_M - y_B = 16 \quad \text{Дакле, } D(2, 16)$$



II група<sup>2</sup> слично као у зад. за I групу:

$$x_M = \frac{x_A + x_C}{2} \quad \text{II} \cdot x_C = 2x_M - x_A = 5; \quad y_C = -3 \quad C(5, -3)$$

$$x_M = \frac{x_B + x_D}{2} \quad \text{II} \cdot x_D = 2x_M - x_B = 1 \quad y_D = -5 \quad D(1, -5)$$

② I група  $d(M, A) = d(M, B) = d(M, C)$

$$\sqrt{(x_M - x_A)^2 + (y_M - y_A)^2} = \sqrt{(x_M - x_B)^2 + (y_M - y_B)^2} \quad \left\{ \begin{array}{l} (x+1)^2 + (y+3)^2 = (x+4)^2 + (y-6)^2 \\ \sqrt{(x_M - x_A)^2 + (y_M - y_A)^2} = \sqrt{(x_M - x_C)^2 + (y_M - y_C)^2} \end{array} \right. \quad \left\{ \begin{array}{l} (x+1)^2 + (y+3)^2 = (x-3)^2 + (y+1)^2 \end{array} \right.$$

$$\left. \begin{array}{l} -6x + 18y = 42 \quad /:6 \\ 8x + 4y = 0 \quad /:4 \end{array} \right\} \begin{array}{l} -x + 3y = 7 \\ y = -2x \end{array} \quad \left\{ \begin{array}{l} -7x = 7 \\ y = -2x \end{array} \right. \quad \left\{ \begin{array}{l} x = -1 \\ y = 2 \end{array} \right. \quad \boxed{M(-1, 2)}$$

II група Исто као и за I групу:

$$\left. \begin{array}{l} (x+1)^2 + (y-7)^2 = (x-3)^2 + (y+1)^2 \\ (x+1)^2 + (y-7)^2 = (x-6)^2 + (y-8)^2 \end{array} \right\} \begin{array}{l} 8x - 16y = -40 \quad /:8 \\ 14x + 2y = 50 \quad /:2 \end{array} \quad \left\{ \begin{array}{l} x - 2y = -5 \\ 14x + 2y = 50 \end{array} \right. \quad \left. \begin{array}{l} x = 3 \\ y = 4 \end{array} \right\} \quad \boxed{M(3, 4)}$$

$$\left. \begin{array}{l} 15x = 45 \\ x - 2y = -5 \end{array} \right\} \begin{array}{l} x = 3 \\ y = 4 \end{array}$$

③ I група али па је  $k_a = k_c$

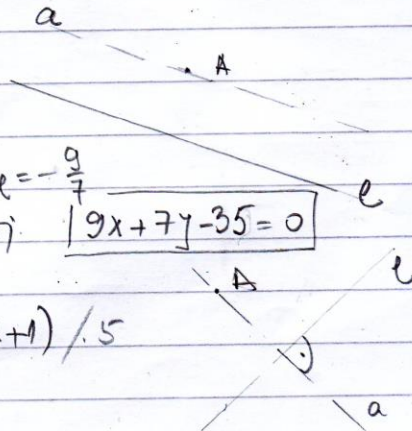
$$9x + 7y - 25 = 0 \Rightarrow y = -\frac{9}{7}x + \frac{25}{7} \quad k_c = -\frac{9}{7}$$

$$y - y_A = k_a(x - x_A); \quad y + 4 = -\frac{9}{7}(x - 7) \quad \text{II} \cdot \boxed{9x + 7y - 35 = 0}$$

II група али па је  $k_a \cdot k_c = -1$

$$k_a = -\frac{5}{7}; \quad y - y_A = k_a(x - x_A); \quad y + 2 = \frac{7}{5}(x + 1) \quad /:5$$

$$\boxed{a: 7x - 5y - 3 = 0}$$



④ I група | Пошто трина  $g$  на висине из тачне  $B$ , одређује  
којој страници  $AC$ :  $k_{AC} = \frac{y_C - y_A}{x_C - x_A} = \frac{-2}{2} = -1$   $k_{h_b} = 1$  јер је  $h_b \perp AC$   
 $h_b: y - y_B = k_{h_b}(x - x_B)$  ;  
 $y - 3 = x + 1$  II.  $x - y + 4 = 0 : h_b$

II група |  $k_{BC} = \frac{y_C - y_B}{x_C - x_B} = \frac{1}{6}$  II.  $k_{h_a} = -6$   
 $h_a: y - y_A = k_{h_a}(x - x_A)$  ;  $y - 6 = -6(x - 3)$  ;  $6x + y + 12 = 0 : h_a$