

پایه دهم دفتر ۱

تکلیف شماره ۱۷

۲۰

هسته با تشریح

$$m = \frac{\Delta y}{\Delta x} \quad \frac{-1}{2} = \frac{k-m}{-2-5} \rightarrow k-m=3$$

(۱) (۲)

$$\text{طول وتر} = \sqrt{36+9} = \sqrt{45}$$

$$S = a^2 = (\sqrt{45})^2 = 45$$

$$m_{AB} = m_{CD} \quad \frac{5}{-3} = \frac{-3}{2n+1} \rightarrow n = \frac{5}{2}$$

(۲)

(۳)

$$m_{AB} \times m_{AC} = -1 \quad \frac{-3}{5} \times \frac{1-y}{n} = -1 \rightarrow \frac{-3}{5} \times \frac{1-y}{\frac{5}{2}} = -1$$

$$\rightarrow 3y - 3 = 5 \rightarrow y = \frac{8}{3}$$

$$\Rightarrow C \left| \begin{array}{c} \frac{3}{2} \\ 2 \end{array} \right.$$

$$\sqrt{\Delta x^2 + \Delta y^2} = \sqrt{9+16} = 5$$

$$\sqrt{\frac{9}{5} + 5} = \frac{8}{5}$$

$$P = 2\left(5 + \frac{8}{5}\right) = 18$$

$$(m^2 - 1)y = -2mx + 3 \rightarrow y = \frac{-2m}{m^2 - 1}x + \frac{3}{m^2 - 1}$$

(۴)

$$\tan 60^\circ = \sqrt{3}$$

(۵)

$$\frac{-2m}{m^2 - 1} = \sqrt{3} \rightarrow \sqrt{3}m^2 - \sqrt{3} = -2m \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0$$

$$\text{ریشه} \rightarrow m^2 + 2m - 3 = 0 \rightarrow m = \frac{-2 \pm \sqrt{4+12}}{2} = \frac{-2 \pm 4}{2}$$

$$\rightarrow m = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$m_1 - m_2 = \frac{\sqrt{3}}{3} - (-\sqrt{3})$$

$$\rightarrow \frac{\sqrt{3}}{3} + \sqrt{3} = \frac{4\sqrt{3}}{3}$$

$$m_{BC} = \frac{11-5}{7-5} = 3$$

$$y - 5 = 3(x - 7)$$

$$y - 5 = 3x - 21 \rightarrow y = 3x - 16$$

$$-3x + y + 16 = 0$$

$$AH = \frac{|ax+by+c|}{\sqrt{a^2+b^2}} = \frac{|19-16+16|}{\sqrt{1+9}} = \frac{19}{\sqrt{10}} = 2\sqrt{10}$$

$$AC: 5y - 3x - 14 = 0$$

$$\begin{cases} AB = 2y - 7x + 19 = 0 \\ BC = y + 3x - 7 = 0 \end{cases}$$

$$BH = \frac{|ax+by+c|}{\sqrt{a^2+b^2}}$$

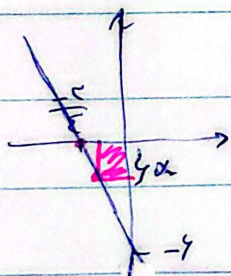
$$AB = 2y - 7x + 19 = 0$$

$$BC = 2y - 5x + 14 = 0$$

$$-11x + 3y = 0 \rightarrow x = 3$$

$$y = 1$$

$$BH = \frac{|5-9-14|}{\sqrt{16+9}} = \frac{18}{5} = 3.6$$



$$\frac{\alpha}{\frac{5}{5}} = \frac{4-\alpha}{5} \rightarrow 5\alpha = 4 - \alpha \rightarrow 6\alpha = 4 \rightarrow \alpha = \frac{2}{3}$$

$$\rightarrow \frac{2\sqrt{5}}{5} \alpha = \frac{4}{5} \rightarrow \alpha = \frac{2}{3}$$

$$\text{مسافة} = \sqrt{5} \alpha \rightarrow \frac{2}{3} \sqrt{5}$$

نقطة وسطية $\rightarrow$ $a \neq \frac{a-1}{a}$

$$y = ax + 1$$

$$ay = x + a - 1 \rightarrow y = \frac{1}{a}x + \frac{a-1}{a}$$

$$a = \frac{1}{a} \rightarrow a^2 = 1 \rightarrow a = -1, a = +1$$

$$S = \frac{\sqrt{5}r}{r} \times \frac{\sqrt{r}}{r} = \frac{\sqrt{5}}{r}$$

$$y = x + 1, y = x - 1 \rightarrow 2 = 1 + 1 \rightarrow 2 = 1 + 1$$

$$y = -x + 1, y = -x + 2 \rightarrow -2 = -1 + 1 \rightarrow -2 = -1 + 1$$

$$\frac{|c-c'|}{\sqrt{a^2+b^2}} = \frac{|10-(-1)|}{\sqrt{1+1}} = \frac{11}{\sqrt{2}} = \frac{\sqrt{2}}{2} \rightarrow \sqrt{a^2+b^2} = \frac{\sqrt{2}}{2}$$

