

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱/۱... کلاس:

$$S = AB^T = (x_B - x_A)^T + (y_B - y_A)^T \rightarrow 4^T + (m-1)^T = 34 + (m-1)^T$$

$$m = \frac{\Delta y}{\Delta x} = \frac{m-1}{4} \quad \frac{m-1}{4} = -\frac{1}{4} \rightarrow m-1 = -3 \quad S = 34 + (-3)^T$$

$$S = 31$$

$M_{AC} = (-\frac{1+x}{2}, \frac{y+1}{2})$ $M_{BD} = (\frac{x-1}{2}, \frac{y+1}{2}) \rightarrow -\frac{1+x}{2} = \frac{x-1}{2} \rightarrow x = \frac{4}{2} = 2$

$m_{AB} = \frac{1-0}{4-0} = \frac{1}{4}$ $m_{BC} = \frac{1-0}{4-4} = \frac{1}{0}$ $m_{AB} \times m_{BC} = -1$

$(-\frac{1}{4})(\frac{1}{0}) = -1 \rightarrow \frac{-1(1-1)}{4 \times (-\frac{1}{4})} = -1 \rightarrow \frac{0}{-1} = -1 \rightarrow 0 = -1$

$AB = \sqrt{4^2 + 1^2} = 5$

$BC = \sqrt{(-\frac{1}{4})^2 + (1-\frac{1}{4})^2} = \frac{5}{4}$ $P = 2 \times (\frac{5}{4} + 5) = 12.5$

$m = -\frac{2m}{m^2-1} = \sqrt{2}$ $13m^2 + 2m - 13 = 0$ $\Delta < 0$ $\frac{1}{\sqrt{2}}$ اگر مقادیر ریشه های حقیقی است

$m^2 + 2m - 3 = 0$ $(m+\frac{3}{\sqrt{2}})(m-\frac{1}{\sqrt{2}}) = 0$ $\frac{1}{\sqrt{2}}$ که در اینجا $\Delta < 0$ ریشه نداریم

$\frac{1}{\sqrt{2}} - (-\frac{3}{\sqrt{2}}) \rightarrow \frac{4}{\sqrt{2}} = 2\sqrt{2}$

$m_{BC} = \frac{\Delta y}{\Delta x} = \frac{11-3}{4-3} = 8$ $y-3 = m(x-3)$ $|ax_0 + by_0 + c|$ A

$y-3x+3=0$ $\frac{\sqrt{a^2+b^2}}{\sqrt{a^2+b^2}}$

$\frac{|-3(1) + 9 + 3|}{\sqrt{(-3)^2 + 1}} = \frac{9}{\sqrt{10}} \rightarrow 2\sqrt{10}$

$4y - 3x = -12$ $-11x = -33 \rightarrow x = 3$

$y + 2x = 7$ $y = 1$

AC $\frac{|3(1) - 3(3) - 12|}{\sqrt{1+9}} = \frac{18}{\sqrt{10}} = \frac{18\sqrt{10}}{10} = \frac{9\sqrt{10}}{5}$

$$m = \frac{-7-0}{0+\frac{1}{2}} = -14$$

$$+\frac{7\sqrt{7}}{7} = 0.1$$

$$y+y = -1(x+0)$$

$$y+1x+y=0$$

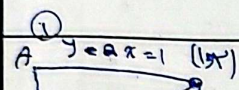
$$a+1a+y=0 \rightarrow 2a+y=0$$

$$9a = -y$$

$$a = -\frac{y}{9}$$

$$\frac{1}{9} = a \cdot \frac{1}{9}$$

5



$$y = ax = 1 \quad (10\%)$$

$$ay - x = a - 1$$

$$m_1 = m_2 \Rightarrow a = \frac{1}{a} \rightarrow a^2 = 1 \rightarrow a = \pm 1$$

$$C_1 = x_1 - y_1 + 1 = 0 \quad C_2 = x_2 - y_2 + 1 = 0$$

$$a = 1 \rightarrow x+y-1=0 \quad 1-1+1=0 \quad \checkmark$$

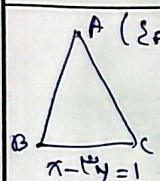
$$a = -1 \rightarrow x-y-1=0$$

$$w = \frac{|C_1 - C_2|}{\sqrt{a^2 + b^2}} = \frac{|1 - (-1)|}{\sqrt{1 + (-1)^2}} = \frac{2}{\sqrt{2}} = \sqrt{2}$$

$$L^2 + \left(\frac{1}{\sqrt{2}}\right)^2 = a^2 \quad L^2 + \frac{1}{2} = a^2 \quad L^2 = a^2 - \frac{1}{2} = \frac{89}{2} \quad L = \frac{\sqrt{89}}{\sqrt{2}}$$

$$S = \frac{\sqrt{89}}{\sqrt{2}} \times \frac{1}{\sqrt{2}} = \frac{\sqrt{89}}{2}$$

5



$$d = \frac{|(-3)(0) - 1|}{\sqrt{1 + (-3)^2}} = \frac{1}{\sqrt{10}}$$

$$S = \frac{1}{2} \times d \times d = \frac{1}{2} \times \frac{1}{\sqrt{10}} \times \frac{1}{\sqrt{10}} = \frac{1}{20}$$

5

1) $\omega = 6$

$$3(10\omega + \frac{1}{2} - 1) = 10, \omega + 10 - 12 = -1$$

$$B \text{ دایره } C_1 = \frac{1}{2}$$

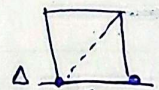
$$B_{C_{max}} = \sqrt{(10-1)^2 + (10-9)^2} = \sqrt{81 + 1} = \sqrt{82} \rightarrow \frac{9}{\sqrt{82}}$$

$$3x_c + y_c - 12 = 0 \quad 3(10y_c + 1) + y_c = 12$$

$$10y_c - 9 = 0 \rightarrow y_c = 0.9 \quad 0 \leq y_c \leq 1$$

$$S_{max} = \frac{1}{2} \times \frac{9}{\sqrt{82}} \times \frac{1}{\sqrt{82}} = \frac{1}{2} \times \frac{9}{82} = \frac{9}{164}$$

$$m = \frac{a-b}{-\frac{1}{2} + \frac{1}{2}} = \sqrt{2} \rightarrow a-b = -\frac{\sqrt{2}}{2}$$



$$a = \sqrt{(a-b)^2 + \left(-\frac{1}{2} + \frac{1}{2}\right)^2} \rightarrow \sqrt{\frac{2}{4} + \frac{1}{4}} = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2} = a$$

$$d = a\sqrt{2} \rightarrow \frac{\sqrt{2}}{2}$$

5

$$A \mid \frac{1}{-1} \rightarrow OA = \sqrt{a^2 + 4} = a \quad m_{OA} = \frac{2}{a} \quad m_L = -\frac{1}{2} \rightarrow y - (-1) = -\frac{1}{2}(x - (-1)) \rightarrow 2x + 4y + 1 = 0$$

$$m_L = \frac{2}{a} \rightarrow y = \frac{2}{a}x + b \rightarrow 2x + (-4)y = 0 \rightarrow \frac{(2(0) - 4(0) + 1)}{\sqrt{4 + 16}} = a \quad \frac{1}{5} = a \rightarrow |C| = 5a \quad C = \pm 5a$$

$$m_{\omega} = y > 0 \quad x < 0 \quad \begin{cases} 2x - 4y + 1 = 0 \\ 2x + 4y + 1 = 0 \end{cases} \quad \begin{matrix} x = -1 \\ y = -1 \end{matrix} \quad (-1) \times (-1) = 1$$

5