

پاراها تکیه - یازدهم پسر - تکلیف ۱۷

$$m = \frac{oy}{ox} = \frac{m-k}{1-(-2)} = \frac{m-k}{3} = -\frac{1}{3} \Rightarrow m-k = -3 \quad (1)$$

$$AB = \sqrt{(ox)^2 + (oy)^2} = \sqrt{(3)^2 + (3)^2} = 3\sqrt{2} \Rightarrow \boxed{S = 45}$$

$$AB = \sqrt{(ox)^2 + (oy)^2} = \sqrt{(3)^2 + (3)^2} = \boxed{6} \quad (2)$$

$$m_{AB} = m_{CD} = -\frac{3}{3} = -1 \Rightarrow -1 - 2n = -1 \Rightarrow \boxed{n = \frac{3}{2}} \Rightarrow C(\frac{3}{2}, 3) \quad D(-\frac{3}{2}, 3+3)$$

$$m_{BC} \times m_{CD} = -1 \Rightarrow m_{BC} = \frac{3}{3} = 1 \Rightarrow \frac{y-1}{x} = 1 \Rightarrow y-1 = x \Rightarrow y = x+1 \Rightarrow \boxed{y = -1}$$

$$\Rightarrow C(\frac{3}{2}, -1), D(-\frac{3}{2}, 2)$$

$$BC = \sqrt{(ox)^2 + (oy)^2} = \sqrt{(\frac{3}{2})^2 + (3)^2} = \boxed{\frac{3}{2}} \quad (II) \Rightarrow \text{مساحت} = 2 \times (\frac{3}{2} + 3) = \boxed{15}$$

$$y = \left\{ \left( \frac{-2m}{m^2-1} \right) x + \frac{2}{m^2-1} \right\} \Rightarrow \frac{-2m}{m^2-1} = \sqrt{3} \Rightarrow 5m^2 + 2m - \sqrt{3} = 0$$

$$a = \tan \alpha = \sqrt{3} \quad |m_1 - m_2| = \frac{\sqrt{0}}{|a|} = \frac{\sqrt{4+12}}{\sqrt{3}} = \frac{4}{\sqrt{3}} = \boxed{\frac{4\sqrt{3}}{3}}$$

$$BC: y = 2x - 3 \Rightarrow y - 2x + 3 = 0$$

$$m = \frac{oy}{ox} = \frac{11-3}{1-2} = \frac{8}{-1} = -8 \Rightarrow y = 2x + b \Rightarrow 11 = 2 + b \Rightarrow b = 9 \Rightarrow \boxed{y = 2x + 9}$$

$$AH = \frac{|9 - 2 + 3|}{\sqrt{(2)^2 + (-1)^2}} = \frac{10}{\sqrt{5}} = \boxed{2\sqrt{5}}$$

$$AB = BC \Rightarrow -2x + 3 = \frac{1}{2}x - \frac{11}{2} \Rightarrow \frac{11}{2}x = \frac{17}{2} \Rightarrow \boxed{x = \frac{17}{2}} \Rightarrow \boxed{y = 1}$$

$$BH = \frac{|17 - 9 - 11|}{\sqrt{(2)^2 + (-1)^2}} = \frac{1}{\sqrt{5}} = \boxed{\frac{\sqrt{5}}{5}}$$

$$\frac{x}{-2} + \frac{y}{-1} = 1 \Rightarrow -2x - y = 2 \Rightarrow -2x - \frac{1}{2}x = \frac{9}{2} \Rightarrow -\frac{5}{2}x = \frac{9}{2} \Rightarrow \boxed{x = -\frac{9}{5}} \Rightarrow \boxed{y = -\frac{1}{5}}$$

$$\boxed{\frac{1}{2}\sqrt{5}}$$

$$d_1: y = ax + 1$$

$$d_2: y = \frac{1}{a}x + \frac{a-1}{a}$$

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

$$a = 1 \Rightarrow \begin{cases} d_1: y = x + 1 \\ d_2: y = x \end{cases}$$

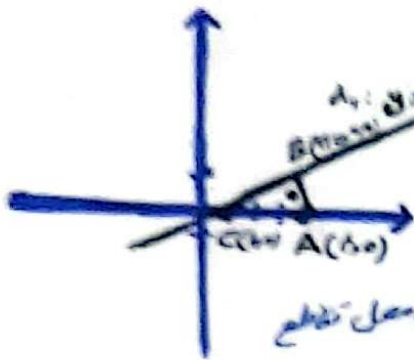
$$a = -1 \Rightarrow \begin{cases} d_1: y = -x + 1 \\ d_2: y = -x + 2 \end{cases}$$

$$d_1: y = x + 1$$

$$d_2: y - x = 0$$

$$\Rightarrow \frac{|1-0|}{\sqrt{1+1}} = \frac{1}{\sqrt{2}} = \boxed{\frac{\sqrt{2}}{2}} \quad (I)$$

$$\frac{\sqrt{2}}{2} \Rightarrow \sqrt{2} - \frac{1}{2} = \sqrt{\frac{1}{2}} = \boxed{\frac{\sqrt{2}}{2}} \quad (II) \Rightarrow \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = \boxed{\frac{1}{2}}$$



بار اول: دایره ای با نام پیرا - تکلیف ۱۴

$$x - 3y = 1 \Rightarrow y = \frac{1}{3}x - \frac{1}{3} \quad d_1$$

$$d_2: y = -3x + b \Rightarrow 0 = -12 + b \Rightarrow b = 12 \Rightarrow d_2: y = -3x + 12$$

$$d_1 = d_2 \Rightarrow \frac{1}{3}x - \frac{1}{3} = -3x + 12 \Rightarrow \frac{10}{3}x = \frac{37}{3} \Rightarrow x = 3.7$$

$$\Rightarrow x = 3.7 \Rightarrow y = 0.9 \Rightarrow B(3.7, 0.9) \quad (III)$$

مطابق بهینه‌ترین مساحت زمانی حاصل می‌شود که دایره سوم (C) محل تقاطع خط  $d_1$  با محور باشد  $(= y = 0)$

$$0 = \frac{1}{3}x - \frac{1}{3} \Rightarrow x = 1 \quad d_1 \quad (= y = 0)$$

$$\Rightarrow C(1, 0) \quad (II) \quad (I), (II)$$

$$\Rightarrow AC = \sqrt{(0.9 - 0)^2 + (3.7 - 1)^2} = \sqrt{0.81 + 7.29} = \sqrt{8.1} = 2.7$$

$$AC: y = 0$$

$$A(5, 0) \quad (I)$$

$$\Rightarrow BH = \frac{0.9}{1} = 0.9$$

$$\Rightarrow S_{ABC} = \frac{3 \times 0.9}{2} = 1.35$$

$$m = \frac{0.9}{0.9} = 1 = \frac{b-a}{-\frac{1}{3} - (-\frac{1}{3})} = \frac{b-a}{\frac{1}{3}} \Rightarrow b-a = \frac{3}{3} = 1$$

$$A(-\frac{1}{3}, a)$$

$$B(-\frac{1}{3}, b)$$

$$\Rightarrow AB = \sqrt{0.9^2 + 0.9^2} = \sqrt{1.62} = 1.27$$

برای است  
(معلم)  $\sqrt{2}$  اندازه  
اندازه  $\sqrt{2}$   
آنها  $\sqrt{2}$

(10)

می‌دانیم در هر دایره ای آمار از نقطه ای دو مماس عمود بر هم برداریم ای هم کنیم مطابق شکل زیر زاویه حاصل بین دو مماسی که بر این دو مماس عمود هستند نیز ۹۰° خواهد بود

$$m_{OT} = \frac{0 - (-4)}{0 - (-3)} = \frac{4}{3}$$

$$\Rightarrow m_{OT'} = -\frac{3}{4}$$

$$m_{OT} \times m_{OT'} = -1$$

$$(I) \quad T(-3, -4)$$

$$\begin{aligned} \angle OT'A + \angle OT'B + \angle OT'C + \angle OT'D &= 360^\circ \\ \angle OT'A + \angle OT'B &= \angle OT'C + \angle OT'D = 90^\circ \end{aligned}$$

$$r = \overline{OT} = \overline{OT'} = \sqrt{(-3)^2 + (-4)^2} = 5 \quad (II)$$

$$P'(x, -\frac{3}{4}x)$$

$$\Rightarrow \angle OT'T' = 90^\circ$$

$$(II) \Rightarrow m_{OT'} = -\frac{3}{4} \Rightarrow OA: y = -\frac{3}{4}x + b \Rightarrow y = -\frac{3}{4}x \Rightarrow P'(x, -\frac{3}{4}x) \quad (III)$$

$$(II) \Rightarrow \overline{OT} = \sqrt{x^2 + \frac{9}{16}x^2} = \sqrt{\frac{25}{16}x^2} = \frac{5}{4}|x| = 5 \Rightarrow x = 4 \Rightarrow T'(4, -3)$$

مربع منفرجه  
مستویات الاضلاع  
است

$$\begin{aligned} x_1 + x_2 &= x_3 + x_4 \\ y_1 + y_2 &= y_3 + y_4 \\ x_1 &= x_3 \\ y_1 &= y_3 \end{aligned}$$

$$\Rightarrow x_1 = x_3 = 4 \Rightarrow y_1 = y_3 = -3$$