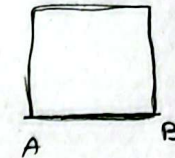
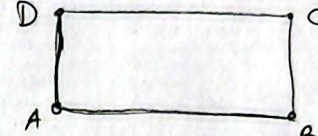
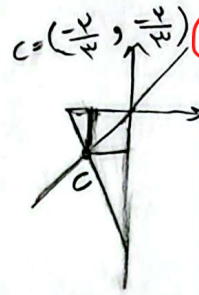


نام و نام خانوادگی علی جالی پاسخنامه تشریحی تکلیف شماره ۱۷ کلاس پایه دهم A	
$m = \frac{\Delta y}{\Delta x} \Rightarrow -\frac{1}{4} = \frac{m-k}{4-(-2)} \Rightarrow m-k = -2$ $AB = \sqrt{(4-(-2))^2 + (m-k)^2} = \sqrt{4^2 + 2^2}$ $S = AB^2 = 4^2 + 2^2 = 20 \quad \checkmark$	(۲) 
$m_{AB} = \frac{4-1}{-1-2} = -\frac{3}{3} \Rightarrow m_{BC} = \frac{4}{3} \quad B \in BC \Rightarrow \text{خط } BC: y = \frac{4}{3}x - 2$ $m_{CD} = m_{AB} = -\frac{4}{3}$ $\Rightarrow \frac{y+2-y}{-1-x-x} = -\frac{4}{3} \Rightarrow 2x+1=4 \Rightarrow x=\frac{3}{2}$ $y = \frac{4}{3} \times \frac{3}{2} - 2 = -1 \Rightarrow C = (\frac{3}{2}, -1)$ $\overline{BC} = \sqrt{(\frac{3}{2})^2 + 2^2} = \sqrt{\frac{9}{4} + 4} = \sqrt{\frac{25}{4}} = \frac{5}{2} \quad \checkmark$ $\overline{AB} = \sqrt{4^2 + 2^2} = 2\sqrt{5} \quad \checkmark$ $\text{مساحت} = 2(\frac{5}{2} + \sqrt{5}) = 5 + 2\sqrt{5} \quad \checkmark$	(۲) 
$\tan \alpha = \frac{-2m}{m^2-1} \Rightarrow \frac{-2m}{m^2-1} = \tan 45^\circ = 1 \Rightarrow \sqrt{3}m^2 - \sqrt{3} + 2m = 0$ $\alpha = 45^\circ$ $\frac{\sqrt{\Delta}}{ a } = \frac{\sqrt{4+12}}{\sqrt{3}} = \frac{4\sqrt{3}}{\sqrt{3}} = 4 \quad \checkmark$	(۲)
$m_{BC} = \frac{11-2}{2-2} = \frac{9}{0} \Rightarrow \text{خط } BC: y-2=2(x-2) \Rightarrow y=2x-2$ $BC: 2x-y-2=0$ $A = (1, 9)$ $AH = \text{فاصله } A \text{ از } BC = \frac{ 2-9-2 }{\sqrt{2^2+1^2}} = \frac{9}{\sqrt{5}} = 2\sqrt{5} \quad \checkmark$	(۲)
$AB \cap BC = B \Rightarrow \begin{cases} y+2x=4 \\ 2y-4x=-14 \end{cases} \Rightarrow x=\frac{3}{2}, y=1 \quad B = (\frac{3}{2}, 1)$ $AC \text{ از } B \text{ فاصله} = AH = \frac{ 1-9+4-14 }{\sqrt{1^2+3^2}} = \frac{24}{\sqrt{10}} = \frac{12\sqrt{10}}{5} \quad \checkmark$ $AC: -3x+4y-14$	(۲)

$$(-\frac{4}{\sqrt{5}}, 0), (0, -4) \in l \Rightarrow m = \frac{-4-0}{0-(-\frac{4}{\sqrt{5}})} = \frac{-4}{\frac{4}{\sqrt{5}}} = -\sqrt{5}$$

$$l: y - (-4) = -\sqrt{5}(x - 0) \Rightarrow y = -\sqrt{5}x - 4 \quad \left. \begin{array}{l} y = -\sqrt{5}x - 4 \\ y = x \end{array} \right\} \Rightarrow x = -\frac{4}{\sqrt{5}} \quad y = \frac{4}{\sqrt{5}}$$

$$\text{قطر مربع} = C \text{ و نقطة مبدأ} = \sqrt{(\frac{4}{\sqrt{5}})^2 + (\frac{4}{\sqrt{5}})^2} = \boxed{\frac{4\sqrt{2}}{\sqrt{5}}} \checkmark$$



(2)

$$I) \quad \begin{array}{l} y = x + 1 \\ y = x \end{array}$$

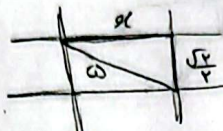
$$\leftarrow a = \pm 1 \quad \leftarrow \frac{1}{a} = a \quad \leftarrow \text{دو ضلع مقابل مع موازي}$$

(2)

$$II) \quad \begin{array}{l} y = -x + 1 \\ y = -x + 4 \end{array}$$

و

دو حالت ناطق
دو خط:



$$\alpha^2 + \frac{1}{\alpha} = 45 \Rightarrow \alpha = \sqrt{45.5}$$

$$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

با توجه به قطر ناطق دو خط دیگر را بنویسید

$$S = (x) \left(\frac{1}{\sqrt{2}} \right) = (\sqrt{45.5}) \left(\sqrt{\frac{1}{2}} \right) = \sqrt{14.45} = \boxed{3.5} \checkmark$$

$$AH = \frac{|4-1|}{\sqrt{1+9}} = \frac{3}{\sqrt{10}}$$

$$m_{BC} = \frac{1}{\sqrt{5}} \Rightarrow m_{AH} = -\sqrt{5}$$

$$\max S = \max \text{ ناطق}$$

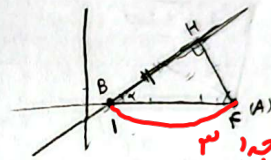
$$\tan \alpha = \frac{1}{\sqrt{5}} \Rightarrow \alpha < 45^\circ \text{ زاویه برآورد} \quad AH < BH$$

(3)

$$AH = \text{ارتفاع} \Rightarrow \text{اگر حالت قائم الزاویه} \Rightarrow BH: \text{ناطق} \int_{BH > AH}^{\max \text{ ناطق}}$$

$$\triangle ABH \cong \text{ثلاث مفروض}$$

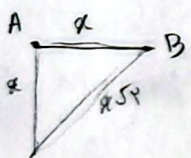
$$AH = -\sqrt{5}x + 4 \quad x = \frac{1}{\sqrt{5}} \Rightarrow y = \frac{3}{\sqrt{5}} \Rightarrow \left(\frac{1}{\sqrt{5}}, \frac{3}{\sqrt{5}} \right) \in ABH$$



$$\tan \alpha = \frac{1}{\sqrt{5}} \Rightarrow 1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \Rightarrow 1 + \frac{1}{5} = \frac{1}{\cos^2 \alpha} \Rightarrow \cos^2 \alpha = \frac{5}{6} \Rightarrow \cos \alpha = \frac{\sqrt{30}}{6}$$

$$S_{ABH} = \frac{1}{2} AB \cdot AH \cdot \sin(90^\circ - \alpha) = \frac{1}{2} \times \frac{4}{\sqrt{5}} \times \frac{3}{\sqrt{5}} \times \cos \alpha = \frac{4}{\sqrt{5}} \times \frac{3}{\sqrt{5}} \times \frac{\sqrt{30}}{6} = \boxed{\frac{2\sqrt{30}}{5}}$$

$$\Delta = \frac{b-a}{\frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}}} = \frac{b-a}{\frac{2}{\sqrt{5}}} = \sqrt{5} \Rightarrow b-a = \frac{\sqrt{5}}{2}$$



$$AB = \sqrt{(b-a)^2 + \left(-\frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}}\right)^2} = \sqrt{\frac{4}{5} + \frac{1}{5}} = \frac{1}{\sqrt{5}}$$

$$\text{قطر} = AB \cdot \sqrt{2} = \boxed{\frac{\sqrt{2}}{\sqrt{5}}} \checkmark$$

(2)

$$BA = AO = \sqrt{4^2 + 3^2} = 5$$

$$m_{AO} = \frac{-3-0}{-4-0} = \frac{3}{4} \Rightarrow AO: \frac{3}{4}x = y$$

مربع ABCO

$$m_{AB} = -\frac{4}{3}$$

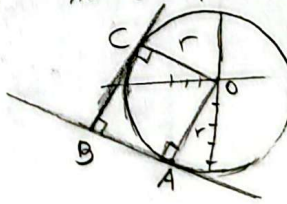
$$AB: y = -\frac{4}{3}x - \frac{10}{3}$$

$$BC: \frac{3}{4}x + b = y$$

$$BC, AO \text{ ناطق: } \frac{|b-0|}{\sqrt{\frac{16}{9}+1}} = \frac{b}{\frac{5}{2}} = 5 \Rightarrow b = \frac{25}{2} \checkmark$$

$$\left. \begin{array}{l} -\frac{4}{3}x - y = \frac{10}{3} \\ \frac{3}{4}x - y = \frac{25}{2} \end{array} \right\} \Rightarrow \begin{array}{l} x = -1 \\ y = +1 \end{array} \checkmark$$

$$x = +1 \checkmark$$



(2)