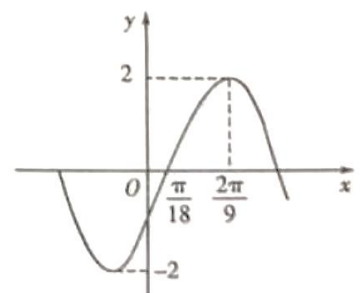


一个

20200927



$$C:(x-1)^2+(y-2)^2=25) \quad l:(2m-1)x-(m-1)y-7m+4=0$$

$$l \quad (1,3)$$

$$C-y \quad 4\sqrt{6}$$

$$l \downarrow C$$

$$l \quad C \quad) \quad l \quad 2x-y-5=0$$

$$A \quad l:x-y-\sqrt{2}=0 \quad) \quad x^2+y^2=1 \quad) \quad PAQ \quad 90^\circ)$$

A

$$0,\sqrt{2} \quad 1,\sqrt{2}-1 \quad \sqrt{2},0 \quad \sqrt{2}-1,1$$

$$\triangle ABC \uparrow) \quad A,B,C \quad) \quad \sqrt{3}a-2c\sin A) \quad 0 \quad C \quad \frac{1}{2}) \quad b=4)$$

$$C=\frac{\pi}{3} \quad \sin A=2\cos B\sin C) \quad \triangle ABC$$

$$c=\frac{7}{2}) \quad \cos B=\frac{1}{7} \quad \triangle ABC \quad 2\sqrt{3}) \quad 4$$

$$\text{穷} \quad) \quad) \quad) \quad \text{穷}) \quad \text{穷} \quad) \quad \text{穷}$$

$$) \quad (-2)x + (-1)y -6 -3 =0$$

$$y=4x) \quad \text{下} \quad x-y-1=0 \quad P(3,-2)$$

$$3 \quad) \quad \uparrow)$$

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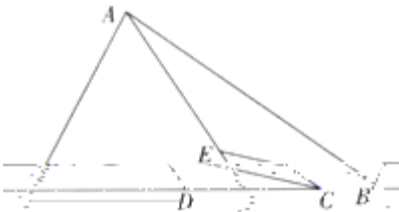
$$\uparrow) \quad A(0,-1)) \quad B(0,3)) \quad P \quad PA \quad PB(-0) \quad P \quad)$$

$$\frac{1}{2}) \quad P$$

$$- \quad) \quad \triangle ABC \uparrow) \quad B=\frac{\pi}{3}) \quad D \in BC \quad) \quad E \in AD \quad)$$

$$AE=8) \quad AC=4\sqrt{10}) \quad \angle CED=\frac{\pi}{4}) \quad CE$$

$$CD=5) \quad \cos \angle DAB$$



-)

) 关

$$ABC \uparrow) \quad A, B, C \quad) \quad a \cos B \quad \frac{1}{2} b \quad c$$

$$\begin{matrix} A \\ ABC \end{matrix} \quad R) \quad \frac{b^2 \quad c^2 \quad bc}{4R^2}$$

$$l \quad (\quad 2,1)$$

$$l \text{ 上} \quad) \quad l \quad k$$

$$l \quad x \quad A) \quad y \quad B) \quad \triangle AOB \quad S) \quad \text{关个 } O \quad)$$

$$S \quad) \quad \text{平} \quad l$$

$$\text{出} \quad f(x) \quad \sqrt{3} \sin x \cos x \quad 3 \cos^2 x \quad \frac{1}{2} \quad 0 \quad) \quad f(x) \quad \frac{-}{2}$$

$$\text{出} \quad f(x) \quad \text{出} \quad f(x) \quad \uparrow$$

$$3 \sin^2 \frac{x}{2} \quad \sqrt{3} m [f(\frac{x}{8} \quad \frac{x}{12}) \quad 1] \quad m \quad 2 \quad x \in [0, 2 \quad] \quad) \quad m$$

$$ABC \uparrow) \quad A,B,C \quad) \text{ 后 } \vec{m} \quad (\cos B, 2\cos^2 \frac{C}{2} - 1))$$

$$\vec{n}=(c,b-2a) \quad \vec{m} \quad \vec{n}$$

$$\begin{array}{c} C \\ D \end{array} \quad AB \quad) \quad \overline{AD} \quad \overline{DB}) \left| \overline{CD} \right| = \sqrt{7}) \quad c = 2\sqrt{3}) \quad ABC$$

$$C:(1-a)x^2+(1-a)y^2-4x-8ay=0 \quad a \in \mathbf{R}$$

$$\begin{array}{c} a \\ \text{上} \end{array} \quad a \quad) \quad C \\ C \quad) \quad a$$

$$\begin{array}{c} xOy \uparrow) \quad C_1: x^2 + y^2 = 4 \quad C_2: x^2 + y^2 = 4 \\ l_1 \quad A(2,0)) \quad \text{下} \quad C_1 \quad) \quad l_1 \\ l_2 \quad B(4,0)) \quad C_2 \quad 2\sqrt{3}) \quad l_2 \\ l_3 \quad x = \frac{5}{2}) \quad l_3 \quad P) \quad P \quad l_4 \quad l_5) \\ \text{下} \quad C_1 \quad C_2 \quad) \quad l_4 \quad C_1 \quad \text{下} \quad l_5 \quad C_2 \end{array}$$

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$$\left(\quad \right) \quad (x-1)^2 \quad (y-4)^2 \quad 8 \quad 1-x^2 \quad y^2 \quad \frac{14}{3}y \quad \frac{5}{3} \quad 0 \quad -4\sqrt{2}$$



$$\begin{aligned}
 & k=0 \Rightarrow l=y-1-k(x-2) \\
 & l=x-\frac{1-2k}{k} \Rightarrow y=1-2k \\
 & l \text{ 上 } \Rightarrow \frac{1-2k}{k}=0, \quad k=0 \\
 & \quad 1-2k=0, \\
 & \Rightarrow l=k \quad [0, \quad) \\
 & \quad l \Rightarrow l=y-1-m(x-2) \quad m=0 \\
 & l \quad A\left(\frac{1-2m}{m}, 0\right), B(0, 1-2m) \\
 & \quad \frac{1-2m}{m}=0, \quad m=0 \\
 & \quad 1-2m=0, \\
 & S=\frac{1}{2}|OA||OB|=\frac{1}{2}\left|\frac{1-2m}{m}\right||1-2m|=\frac{1}{2}\frac{(1-2m)^2}{m} \\
 & \quad \frac{1}{2}4m-\frac{1}{m}4=\frac{1}{2}2\sqrt{4m-\frac{1}{m}}4=\frac{1}{2}4^2-4 \\
 & \quad 2\sqrt{m}-\frac{1}{\sqrt{m}} \Rightarrow m=\frac{1}{2} \\
 & m=\frac{1}{2} \Rightarrow S_{\min}=4 \Rightarrow l=x-2y-4=0
 \end{aligned}$$

$$\begin{aligned}
 & f(x)=\sqrt{3}\sin\left(2x-\frac{\pi}{3}\right)-1 \\
 & \text{出 } f(x)=\frac{\pi}{2} \Rightarrow \frac{2}{2}-\frac{\pi}{2} \Rightarrow 2 \\
 & f(x)=\sqrt{3}\sin\left(4x-\frac{\pi}{3}\right)-1=4x-\frac{\pi}{3}=k, k \in \mathbb{Z} \Rightarrow x=\frac{k}{4}-\frac{\pi}{12}, k \in \mathbb{Z} \\
 & \uparrow \left(\frac{k}{4}-\frac{\pi}{12}, 1\right) k \in \mathbb{Z}
 \end{aligned}$$

$$3\sin^2\frac{x}{2}-3m\sin\frac{x}{2}-m-2=0 \Rightarrow \sin\frac{x}{2} \in [0,1] \Rightarrow m=\frac{3\sin^2\frac{x}{2}-2}{3\sin\frac{x}{2}-1}$$

$$\begin{aligned}
 & t=3\sin\frac{x}{2}-1 \Rightarrow t \in [1,4] \Rightarrow \sin\frac{x}{2}=\frac{t+1}{3} \\
 & y=\frac{3-\frac{1}{9}(t-1)^2-2}{t}=\frac{t^2-2t-5}{3t}=\frac{1}{3}\left(t-\frac{5}{t}-2\right) \quad t \in [1,4] \quad \text{出} \\
 & t=1 \Rightarrow y_{\min}=-2 \Rightarrow m=2 \\
 & t=\sin\frac{x}{2}, t \in [0,1] \Rightarrow y=3t^2-3mt-m-2=0
 \end{aligned}$$

$$\begin{aligned} \frac{m}{2} &= 0 \Rightarrow m = 0 \Rightarrow y_{\min} = y(0) = m^2 = 0 \\ 0 &= \frac{m}{2} - 1 \Rightarrow 0 = m^2 \Rightarrow y_{\min} = y\left(\frac{m}{2}\right) = 3\frac{m^2}{4} - 3m\frac{m}{2} + m^2 = 0 \\ \frac{m}{2} &= 1 \Rightarrow m = 2 \Rightarrow y_{\min} = y(1) = 3 - 3m + m^2 = 0 \Rightarrow m = \frac{1}{4} \\ &= m^2 \end{aligned}$$

$$\begin{aligned} \vec{m} \cdot \vec{n} = 0 &\Rightarrow c \cos B = 2 \cos^2 \frac{C}{2} = 1 - b^2/a^2 = 0 \Rightarrow c \cos B = \cos C = b^2/a^2 = 0 \\ \sin C \cos B = \cos C \sin B &\Rightarrow 2 \sin A = 0 \Rightarrow \sin \frac{B+C}{2} = 2 \sin A \cos C \\ \sin A = 2 \sin A \cos C &\Rightarrow \sin A = 0 \Rightarrow \cos C = \frac{1}{2} \Rightarrow C = 0, \\ C &= \frac{\pi}{3} \end{aligned}$$

$$\begin{aligned} \overrightarrow{AD} = \overrightarrow{DB} &\Rightarrow D \text{ is } AB \text{ midpoint} \Rightarrow \overrightarrow{CD} = \frac{1}{2}\overrightarrow{CA} + \frac{1}{2}\overrightarrow{CB} \\ \overrightarrow{CD}^2 &= \frac{1}{4}\overrightarrow{CA}^2 + \frac{1}{4}\overrightarrow{CB}^2 + \frac{1}{2}\overrightarrow{CA} \cdot \overrightarrow{CB} = |\overrightarrow{CD}|^2 = 7 \Rightarrow C = \frac{\pi}{3} \\ 7 &= \frac{1}{4}b^2 + \frac{1}{4}a^2 + \frac{1}{2}ab \cos C \Rightarrow b^2 + a^2 - ab = 28 \\ c^2 &= a^2 + b^2 - 2ab \cos C = c = 2\sqrt{3} \Rightarrow b^2 + a^2 - ab = 12 \\ ab &= 8 \\ S_{ABC} &= \frac{1}{2}ab \sin C = 2\sqrt{3} \end{aligned}$$

$$\begin{aligned} a - 1 &\leq x - 2y \leq 0 \\ a - 1 &\leq x - \frac{2}{1-a}x^2 - y - \frac{4a}{1-a}x^2 - \frac{4-16a^2}{1-a^2} \\ \therefore \frac{4-16a^2}{1-a^2} &\leq 0 \Rightarrow a \leq 1 \\ x^2 - y^2 - 4x - a &\leq x^2 - y^2 - 8y \leq 0 \\ \therefore a &\leq 0 \end{aligned}$$

$$\begin{aligned} x^2 - y^2 - 4x &\leq 0 \Rightarrow x \leq 0 \Rightarrow x = \frac{16}{5} \\ x^2 - y^2 - 8y &\leq 0 \Rightarrow y \leq 0 \Rightarrow y = \frac{8}{5} \end{aligned}$$

$$C = A(0,0) \Rightarrow B\left(\frac{16}{5}, \frac{8}{5}\right)$$

$$a \leq C$$

$$C \quad) \quad \uparrow) \quad AB$$

$$AB \quad x \frac{8}{5}^2 \quad y \frac{4}{5}^2 \quad \frac{16}{5} \quad \frac{\frac{2}{1-a} \frac{8}{5}}{\frac{4a}{1-a} \frac{4}{5}} \quad) \quad a \quad \frac{1}{4} \quad \frac{\frac{4}{1-a^2} \frac{16}{5}}{\frac{4}{1-a^2} \frac{16}{5}}$$

$$\begin{aligned} l_1 \quad \text{上} \quad) \quad l_1 \quad x \quad 2) \\ l_1 \quad) \quad l_1 \quad y \quad k(x \quad 2) \quad kx \quad y \quad 2k \quad 0 \\ \frac{|4k \quad 5 \quad 2k|}{\sqrt{k^2 \quad 1}} \quad 2) \quad k \quad \frac{21}{20}) \\ l_1 \quad y \quad \frac{21}{20}(x \quad 2)) \quad 21 \quad 20 \quad 42 \quad 0 \\) \quad l_1 \quad x \quad 2 \quad 21 \quad 20 \quad 42 \quad 0 \\ l_2 \quad) \quad l_2 \quad y \quad k(x \quad 4)) \quad kx \quad y \quad 4k \quad 0 \end{aligned}$$

$$\begin{aligned}) \quad C_2 \quad l_2 \quad d \quad \sqrt{2^2 \quad \frac{2\sqrt{3}}{2}^2} \quad 1 \\) \quad \frac{| \quad 3k \quad 1 \quad 4k |}{\sqrt{k^2 \quad 1}} \quad 1) \quad k \quad 0 \quad k \quad \frac{7}{24}) \\ l_2 \quad y \quad 0 \quad y \quad \frac{7}{24}(x \quad 4)) \quad y \quad 0 \quad 7x \quad 24y \quad 28 \quad 0 \\) \quad l_4 \quad l_5 \quad) \quad l_4 \quad k) \quad l_5 \quad \frac{1}{k} \\ P \quad \frac{5}{2}, n) \quad l_4 \quad l_5 \quad y \quad n \quad k \quad x \quad \frac{5}{2} \quad y \quad n \quad \frac{1}{k} \quad x \quad \frac{5}{2}) \end{aligned}$$

$$l_4 : kx \quad y \quad n \quad \frac{5}{2}k \quad 0) \quad l_5 : \frac{1}{k}x \quad y \quad n \quad \frac{5}{2k} \quad 0$$

$$\begin{aligned} l_4 \quad C_1 \quad \text{下} \quad l_5 \quad C_2 \quad) \quad) \\ C_1 \quad l_4 \quad \text{下} \quad C_2 \quad l_5 \quad) \\ \frac{\left| 4k \quad 5 \quad n \quad \frac{5}{2}k \right|}{\sqrt{k^2 \quad 1}} \quad \frac{\left| \frac{3}{k} \quad 1 \quad n \quad \frac{5}{2k} \right|}{\sqrt{\frac{1}{k^2} \quad 1}}) \end{aligned}$$

$$\begin{aligned} \frac{5}{2} \quad n \quad k \quad \frac{21}{2} \quad n \quad \frac{1}{2} \quad n \quad k \quad n \quad \frac{1}{2} \quad \frac{1}{2} \quad n \\ k \quad) \quad \frac{1}{2} \quad n \quad 0) \quad n \quad \frac{1}{2}) \end{aligned}$$

$$l_3 \quad P \quad) \quad \frac{5}{2}, \frac{1}{2}$$