

$$\sqrt{\frac{1}{65x}} \left(r \left(\frac{\sqrt{r}}{r} \right)^r - \sin^2 x \right) = \left| \frac{1}{65x} \right| (1 - \sin^2 x) \quad \text{(ف) نمبر (124)}$$

$$\pi < x < \frac{3\pi}{4} \xrightarrow{65x <} \left(\frac{-1}{65x} \right) (65x) = -65x$$

$$x = vt \rightarrow 12.. = (1.. + x) \times t_1, \quad t_1 - t_1 = \Delta \quad \text{(12) نمبر (127)}$$

$$12.. = (1.. - x) \times t_2$$

$$\frac{12..}{1.. - x} - \frac{12..}{1.. + x} = \Delta \rightarrow x^2 + \epsilon_1 \cdot x - 1..... = .$$

$$\rightarrow x = 2.$$

$$\frac{2x-3}{x+1} > 1 \rightarrow \frac{2x-3}{x+1} - 1 > . \rightarrow \frac{x-4}{x+1} > . \quad \text{(1) نمبر (128)}$$

$$\rightarrow x < -1 \cup x > \epsilon \quad \text{(1)}$$

$$\frac{2x-3}{x+1} < 3 \rightarrow \frac{2x-3}{x+1} - 3 < . \rightarrow \frac{-x-4}{x+1} < . \rightarrow x < -4 \cup x > -1 \quad \text{(2)}$$

$$192 \xrightarrow{\cap} x < -4 \cup x > \epsilon \Rightarrow \mathbb{R} - [-4, \epsilon]$$

$$\binom{1}{f} + \binom{1}{\omega} + \binom{1}{4} = \frac{1!}{\epsilon! \epsilon!} + \frac{1!}{\omega! \epsilon!} + \frac{1!}{4! \epsilon!}$$

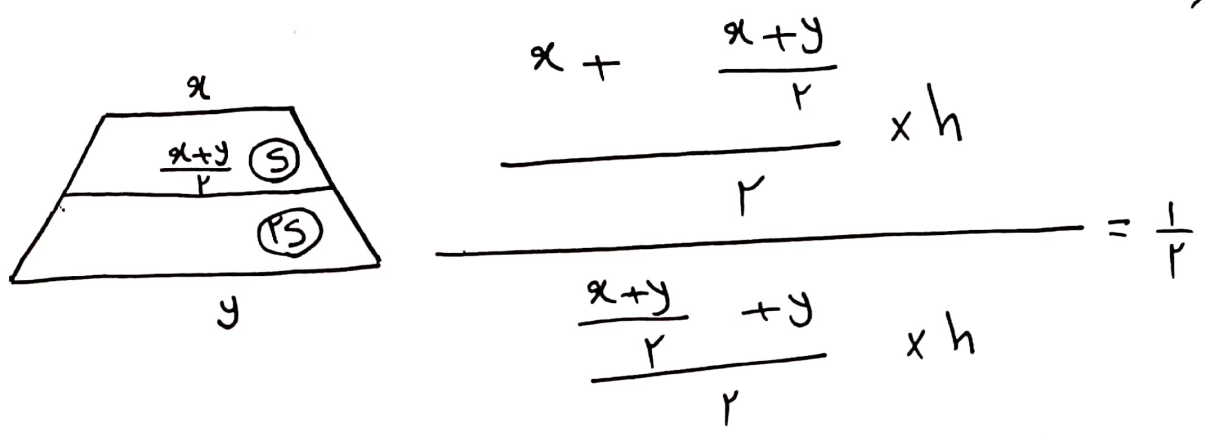
$$= 16f$$

$$\sqrt{2a^2 + fa} = r - 3a \xrightarrow{\text{توان (1)}} 2a^2 + \epsilon a = f + 9a^2 - 12a$$

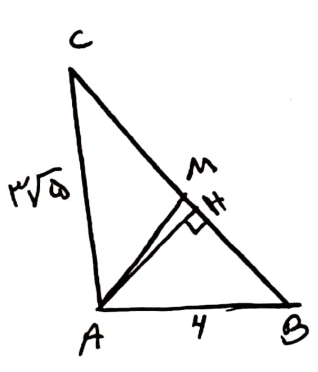
$$\rightarrow 7a^2 - 12a + f = . \rightarrow a = 2 \quad \text{ق ق ع}$$

$$a = \frac{r}{v}$$

$$\rightarrow \frac{a+1}{a} = 1 + \frac{1}{a} = 1 + \frac{v}{r} = \epsilon / \delta$$



$$\rightarrow \frac{x + \frac{x+y}{2}}{\frac{x+y}{2} + y} = \frac{1}{2} \rightarrow \frac{x}{y} = \frac{1}{5}$$

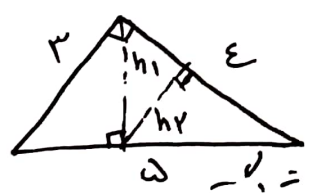


$$BC^2 = 4^2 + 20 \rightarrow BC = 6$$

$$S = \frac{AH \times 6}{2} = \frac{4 \times 2\sqrt{5}}{2} \rightarrow AH = 2\sqrt{5}$$

$$MH^2 = \frac{11}{5} - 2 \rightarrow MH = \frac{1}{5}$$

$$\frac{\frac{2\sqrt{5} \times 4}{2}}{\frac{2\sqrt{5} \times \frac{1}{5}}{2}} = 18$$



همان مثلث که موجود در شکل به حالت
دو زاویه متساوی‌الوجه در مثلث بزرگتر

ضلع بزرگتر مجاور کمانه در مثلث بزرگتر
و در مثلث بزرگتر

$$= \frac{4}{5} \rightarrow \frac{h_2}{h_1} = \frac{4}{5}$$

$$\sin\left(4\pi - \frac{\pi}{3}\right) \cos\left(\pi - \frac{\pi}{4}\right) + \tan\left(2\pi - \frac{\pi}{4}\right) \left(-\sin\left(\pi - \frac{\pi}{4}\right)\right) \quad \text{سوال نمبر (۳) ۱۳۴}$$

$$\left(-\sin\frac{\pi}{3}\right) \left(-\cos\frac{\pi}{4}\right) + \left(-\tan\frac{\pi}{4}\right) \left(+\sin\frac{\pi}{4}\right)$$

$$\left(-\frac{\sqrt{3}}{2}\right) \left(-\frac{\sqrt{2}}{2}\right) + (-1) \left(\frac{1}{2}\right) = \frac{\sqrt{3}}{2} - \frac{1}{2} = \frac{\sqrt{3}-1}{2}$$

$$y = a + b \sin\left(x + \frac{\pi}{3}\right) \quad \text{سوال نمبر (۳) ۱۳۵}$$

$$f(\pi) = -\frac{r}{r} \rightarrow a + b \sin\left(\pi + \frac{\pi}{3}\right) = -\frac{r}{r}$$

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

$$y_{\max} = a + |b| = \sqrt{r} \xrightarrow{b>} a + b = \sqrt{r} \quad (2)$$

$$\begin{cases} 2a - \sqrt{3}b = -r \\ a + b = \sqrt{r} \end{cases} \rightarrow (-2 - \sqrt{3})b = -r - 2\sqrt{r}$$

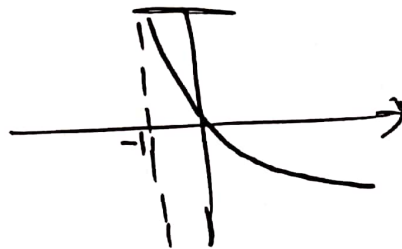
$$\rightarrow b = \frac{r + 2\sqrt{r}}{-2 - \sqrt{3}} = \frac{\sqrt{r}(\sqrt{r} + 2)}{-2 - \sqrt{3}} = \sqrt{r}$$

$$\left(\frac{r}{\omega}\right)^{2x-1} = \left(\left(\frac{\omega}{r}\right)^r\right)^{x^2} = \left(\frac{r}{\omega}\right)^{-3x^2} \quad \text{سوال نمبر (1) ۱۳۶}$$

$$\rightarrow 2x-1 = -3x^2 \rightarrow 3x^2 + 2x - 1 = 0 \rightarrow \begin{matrix} x = -1 \\ x = \frac{1}{3} \end{matrix}$$

$$\log_{\wedge}(9x+1) = \log_{\wedge}\left(9\left(\frac{1}{3}\right) + 1\right) = \log_{\wedge} 2 = \frac{r}{r}$$

$$\log(x+1)^{-1} = -\log(x+1) \quad \text{سوال نمبر (۲) ۱۳۷}$$



$$\lim_{x \rightarrow (-2)^-} f(x) = f(-2) = a$$

$$\lim_{x \rightarrow (-2)^-} f(x) = \lim_{x \rightarrow (-2)^-} \frac{1+x^2}{-(x+2)} = \lim_{x \rightarrow (-2)^-} -(x^2 - 2x + 4) = -12$$

$$\rightarrow -12 = a$$

$$P(A) = .14$$

$$P(B) = .14$$

$$P(B|A) = .18 \rightarrow .18 = \frac{P(A \cap B)}{.14} \rightarrow P(A \cap B) = .154$$

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = .14 + .14 - .154 = .126$$

$$\left\{ \begin{array}{l} \bar{x} = 1. \\ \text{واریانس} = 25 \end{array} \right. \rightarrow CV = \frac{5}{1.} = \frac{1}{14}$$

$$\left\{ \begin{array}{l} \bar{x} = 4 \\ \text{واریانس} = 14 \end{array} \right. \rightarrow CV = \frac{2}{4} = \frac{1}{2} \checkmark \quad \text{چون کمتر است}$$

x	-2	1
y	$y = -2x - 1$	$y = 2x + 1$

$$y = \begin{cases} -2x - 1 & x < -2 \\ 3 & -2 < x < 1 \\ 2x + 1 & x > 1 \end{cases}$$

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$$\sin x (-\cos x) = 1 \rightarrow \sin 2x = -\frac{1}{2}$$

$$\begin{cases} 2x = 2k\pi - \pi/4 \\ 2x = 2k\pi + 7\pi/4 \end{cases} \rightarrow \begin{cases} x = k\pi - \pi/8 \\ x = k\pi + 7\pi/8 \end{cases}$$

$$x = \frac{11\pi}{8}, \frac{5\pi}{8}, \frac{13\pi}{8}, \frac{19\pi}{8} \quad \Sigma = 2\pi$$

$$\lim_{x \rightarrow -1} \frac{x^2 + 1 \cdot x + 14}{12 + 4\sqrt{x}} = \frac{(x+2)(x+1)}{4(\sqrt{x}+2)} \times \frac{(\sqrt{x})^2 - 2\sqrt{x} + 4}{(\sqrt{x})^2 - 2\sqrt{x} + 4} \quad (۱۴۳) \text{ نمبر (۳)}$$

$$\lim_{x \rightarrow -1} \frac{(x+2)(x+1)(\sqrt{x})^2 - 2\sqrt{x} + 4}{4(x+1)} = \frac{(-4)(12)}{4} = -12$$

(دوسری) جواب : $\frac{2x+1}{4\left(\frac{1}{\sqrt{x}}\right)} = \frac{-4}{\frac{1}{2}} = -12$

$$\lim_{x \rightarrow -} f(x) = \text{وجود ندارد} \quad (۱۴۴) \text{ نمبر (۳)}$$

$$\lim_{x \rightarrow +} f(x) = \frac{-1}{+} = -\infty$$

$$\lim_{x \rightarrow -\infty} 2x + \sqrt{4x^2 + x} \times \frac{2x - \sqrt{4x^2 + x}}{2x - \sqrt{4x^2 + x}} \quad (۱۴۵) \text{ نمبر (۳)}$$

$$= \lim_{x \rightarrow -\infty} \frac{-x}{2x - \sqrt{4x^2 + x}} = \lim_{x \rightarrow -\infty} \frac{-x}{2x - 12x} = -\frac{1}{10}$$

$$\lim_{x \rightarrow -\infty} 2x + 2|x + \frac{1}{\lambda}| = 2x - 2x - \frac{1}{\varepsilon} = -\frac{1}{\varepsilon}$$

روش دوم :

$$\lim_{x \rightarrow \pm\infty} \sqrt{ax^2 + bx + c} \sim \sqrt{a} \left| x + \frac{b}{2a} \right|$$

نمبر (۱۴) (۱۴۶)

$$\lim_{x \rightarrow \varepsilon} \frac{f(x) - f(\varepsilon)}{x - \varepsilon} = f'(\varepsilon)$$

$$f'(x) = \frac{\frac{1}{2\sqrt{x}}(2-2x) - (-2)(1+\sqrt{x})}{(2-2x)^2}$$

$$f'(\varepsilon) = \frac{(\frac{1}{\varepsilon})(-2) + (2)(3)}{9} = \frac{4}{9}$$

نمبر (۱۲) (۱۴۷) کثرت به $x=2$ در \bar{x} و \bar{x} و \bar{x} و \bar{x}

$$\lim_{x \rightarrow 2^+} f(x) = \lim_{x \rightarrow 2^-} f(x) = f(2)$$

$$\lim_{x \rightarrow 2^+} f(x) = 1 \quad \lim_{x \rightarrow 2^-} f(x) = 2a + b - \varepsilon \quad f(2) = 1$$

$$\rightarrow 2a + b - \varepsilon = 1 \quad \rightarrow 2a + b = 1 + \varepsilon \quad (1)$$

$$f'_+(2) = f'_-(2)$$

$$f'_+(2) = \frac{-1}{(2-1)^2} = -1$$

$$f'_-(2) = -\frac{2x}{2} + a = a - \varepsilon$$

$$\rightarrow a - \varepsilon = -1$$

$$a = 2 \quad (1) \rightarrow b = -1$$

(11) نیچے (14)

$$g'(x) = \frac{-r}{(x-1)^2} \rightarrow g'(r) = -r$$

$$g(r) = \omega$$

$$(f \circ g)'(r) = g'(r) f'(g(r)) = -r f'(\omega) = 4 \rightarrow f'(\omega) = -r$$

$$\frac{f(\epsilon) - f(1)}{\epsilon - 1} = \frac{\frac{r_1}{\epsilon} - (-\frac{1}{\epsilon})}{r} = \frac{11}{\epsilon}$$

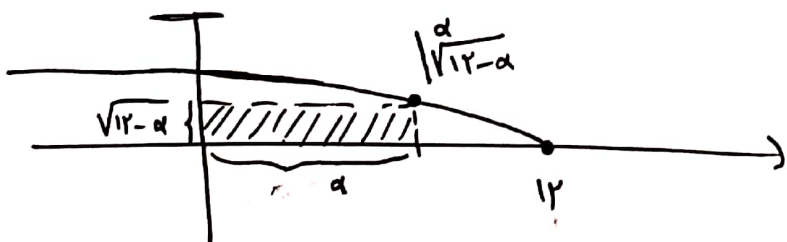
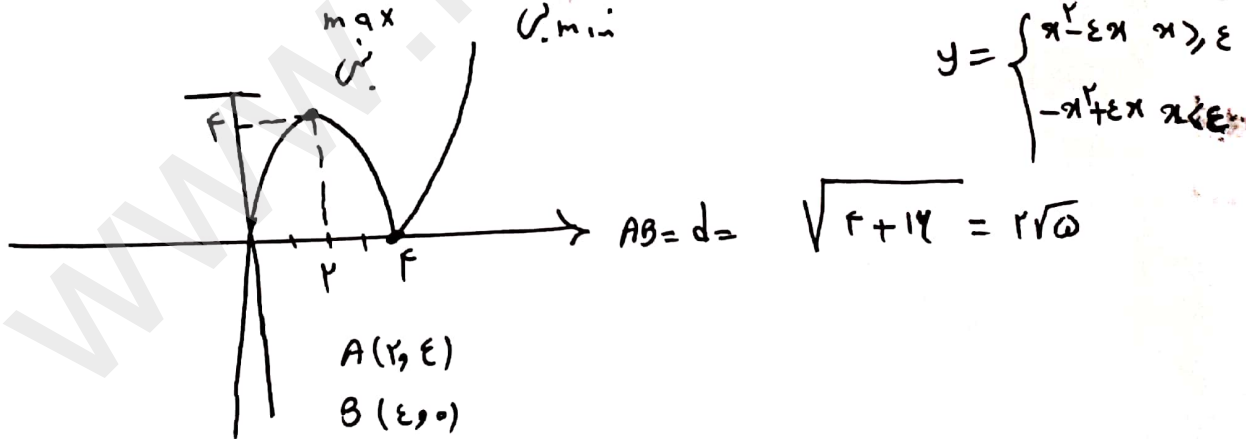
(12) نیچے (14)

$$f'(x) = x + \frac{1}{x^2} \rightarrow f(r) = \frac{9}{r}$$

$$\frac{11}{\epsilon} - \frac{9}{r} = \frac{1}{r} = 1/5$$

$$f(x) = x|x-1|$$

(13) نیچے (15)



$$S = \alpha \sqrt{14 - \alpha}$$

$$S'(\alpha) = (1) \sqrt{14 - \alpha} + \frac{-1}{2\sqrt{14 - \alpha}} (\alpha) = \frac{14 - \alpha}{2\sqrt{14 - \alpha}} \rightarrow \alpha = 8, S_A = 14$$

$$\begin{pmatrix} \cdot F \\ \cdot F' \end{pmatrix}$$

$$\therefore 0 \mid r, F \mid r, F' \mid -1 \rightarrow c = r$$

$$r b = 4 \rightarrow b = r$$

$$a^r = b^r + c^r \rightarrow a^r = 9 + 14 \rightarrow a = 5$$

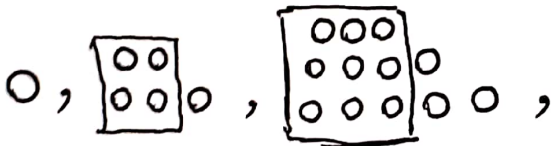
$$e = \frac{c}{a} = \frac{r}{5} = .18$$

1, 5, 12, 22, ...

$$a_n = n^r + \frac{n^r - n}{r}$$

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 عدد

(۱) نمبر (۱۵۳)



$$a_9 = 9 + \frac{11-9}{2} = 117$$

$$y = (x-1)^2 - \epsilon \rightarrow (x-1)^2 = y + \epsilon \rightarrow x-1 = \pm \sqrt{y+\epsilon}$$

(ف) نمبر (۱۵۴)

$$x = 1 \pm \sqrt{y+\epsilon} \xrightarrow{x > 1} x = 1 + \sqrt{y+\epsilon} \rightarrow f^{-1}(x) = 1 + \sqrt{x+\epsilon}$$

$$1 + \sqrt{x+\epsilon} = \frac{x-9}{2} \rightarrow \sqrt{x+\epsilon} = \frac{x-11}{2}$$

$$\rightarrow x + \epsilon = \frac{x^2 - 22x + 121}{\epsilon} \rightarrow x^2 - 24x + 105 = 0$$

$$(x-5)(x-21) = 0 \rightarrow \begin{matrix} x=5 & \text{قریبی} \\ x=21 & \checkmark \end{matrix}$$

(۲) نمبر (۱۵۵)

$$\frac{\binom{5}{2}}{\binom{11}{2}} = \frac{2}{11}$$

سبع سوالات تھوڑا ادب بالا بود یعنی سوالات سے کم سوالات ۱۴۵ از مطالب نظام قدیم
 استناده شده است درصد قابل قبول ۸۰ تا ۵۰ درصد میباشد

شکر ام دلائل

۹۸ / ۴ / ۱۴