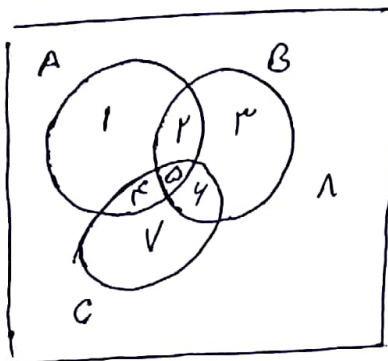


$$A \subseteq B \rightarrow \begin{cases} A - B = \phi \\ A \cap B = A \\ A \cup B = B \end{cases}$$

پس هزینه ۴ صحت است.



54, 55

فرزند ۴

103

فرزینہ ۳

$$\underline{\text{الحل}} \quad \begin{cases} x + r = \omega \rightarrow x = r \\ y = v \end{cases}$$

$$\left\{ \begin{array}{l} z=1 \\ t_{-1} = \tau \rightarrow t = \omega \end{array} \right.$$

$$\{(r, v), (1, \omega)\}$$

$$\underline{\underline{\begin{cases} x + r = V \rightarrow x = \omega \\ y = \omega \end{cases}}}$$

$$\begin{cases} z = r \\ t-1 = 1 \rightarrow t = r \end{cases}$$

$$\{(d, d), (r, r)\}$$

10K

$$\underline{10^k} \quad p \leftrightarrow q \equiv (p \Rightarrow q) \wedge (q \Rightarrow p)$$

$$\equiv (\sim p \vee q) \wedge (\sim q \vee p)$$

$$\equiv [\sim p \vee (p \wedge q)] \wedge [\sim q \vee (p \wedge q)]$$

$$\equiv (p \wedge q) \vee (\sim p \wedge \sim q)$$

$$\equiv (p \wedge q) \vee \sim (p \vee q) \quad \text{نزیه 1}$$

10d

اگر $x=1$ ، n عدد فرد باشد،

حاصل عدد ۱ شود نه تریزه ۳ عقیقه این خامیت
۱ دارد.

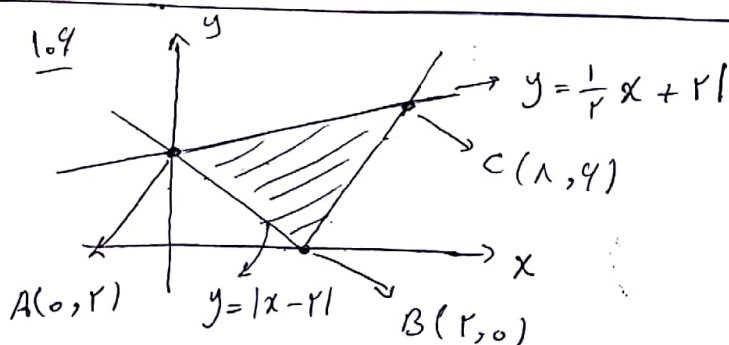
10. V $f(x) = x + \sqrt{x} = 20 \rightarrow x = 19$

$$g(x) = 14 = \frac{9x + 4}{1 - x}$$

$$\Rightarrow 4x + y = 14 - 14x$$

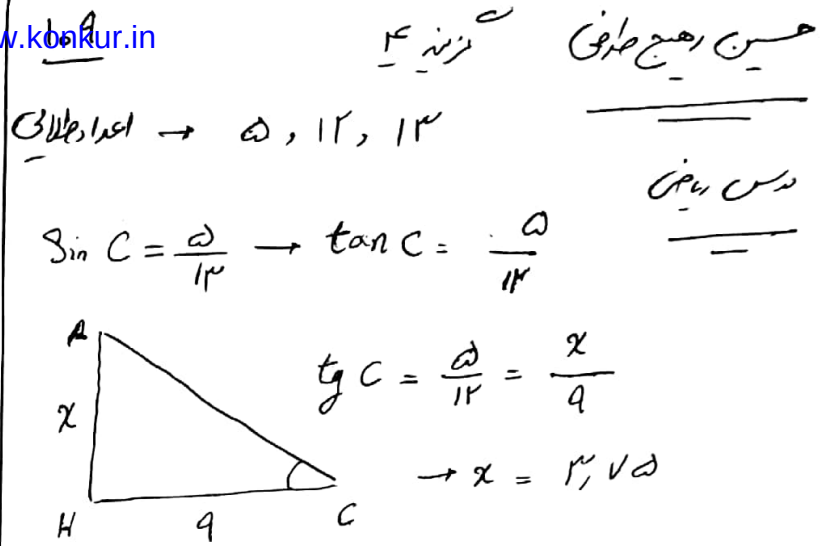
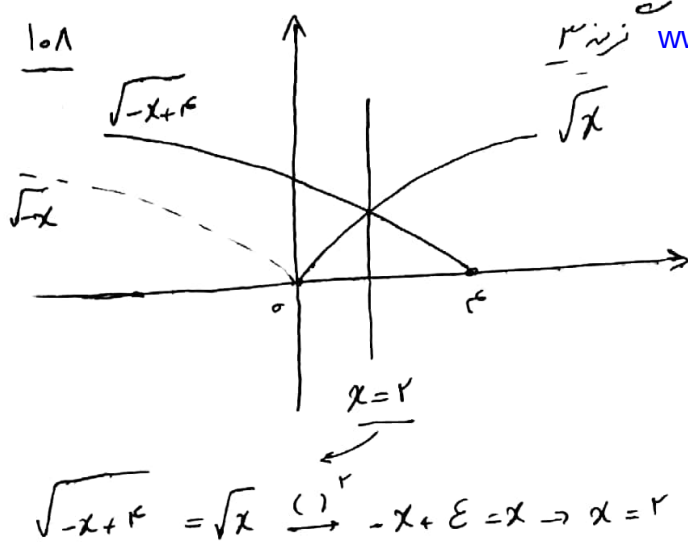
$$\Rightarrow \left| x = \frac{r}{\omega} \right| \rightarrow \frac{1}{\omega} \text{ sec}$$

1.4



$$S = \frac{1}{r} |x_A(y_B - y_C) + x_B(y_C - y_A) + x_C(y_A - y_B)|$$
$$= \frac{1}{r} |0 + 11 + 14| = 1r$$

فرزند ۴



110

نیزه ۳

$\cos(\frac{11\pi}{8} + \alpha) = \cos \frac{11\pi}{8} \cos \alpha - \sin \frac{11\pi}{8} \sin \alpha$

$\cos \alpha < 0, \sin \alpha > 0 \leftarrow$ ربع دوم

$\sin \alpha = \frac{\sqrt{2}}{10} \rightarrow \cos \alpha = -\frac{\sqrt{41}}{10} = -\frac{\sqrt{2}}{10}$

$\sin \frac{11\pi}{8} = \sin(\pi - \frac{\pi}{8}) = \frac{\sqrt{2}}{2}$

$\cos \frac{11\pi}{8} = \cos(\pi - \frac{\pi}{8}) = -\frac{\sqrt{2}}{2}$

$\cos(\frac{11\pi}{8} + \alpha) = (-\frac{\sqrt{2}}{2})(-\frac{\sqrt{2}}{10}) - (\frac{\sqrt{2}}{2})(\frac{\sqrt{2}}{10}) = \frac{2}{10}$

111

$\tan(\pi x) \tan x = 1 \rightarrow \tan(\pi x) = \cot x$

$\Rightarrow \tan \pi x = \tan(\frac{\pi}{x} - x)$

$\Rightarrow \pi x = k\pi + \frac{\pi}{x} - x \Rightarrow x = \frac{k\pi}{x} + \frac{\pi}{\pi}$

$x_1 = \frac{4\pi}{x} + \frac{\pi}{\pi}, x_2 = \frac{5\pi}{x} + \frac{\pi}{\pi}$

$x_3 = \frac{6\pi}{x} + \frac{\pi}{\pi}, x_4 = \frac{7\pi}{x} + \frac{\pi}{\pi}$

$x_1 + x_2 + x_3 + x_4 = 4\pi$

نیزه ۲

112

نیزه ۳

آخرین عدد دسته ۱۴

$\frac{14 \times 20}{2} = 140$

دسته بیستم:

$191, \dots, 210 \Rightarrow S = \frac{(210 + 191) \times 20}{2} = 4010$

113

وقتی ۱۰ درصد کم می شود $\frac{4}{10}$ باقی می ماند

بعد از x سال

$f(x) = 25(\frac{4}{10})^x = 1$

$(\frac{4}{10})^x = \frac{1}{25} = \frac{1}{5^2} \xrightarrow{\lg} \lg(\frac{4}{10})^x = \lg(\frac{1}{5^2})$

$x(\lg 4 - \lg 10) = \lg 1 - \lg 5$

$x(0.602 - 1) = 0 - 0.699 \Rightarrow -0.397x = -0.699$

$x = 1.76$

114

$n \rightarrow +\infty \Rightarrow r^{1-r_n} = 0$

$\lim_{n \rightarrow +\infty} \frac{r^{r_n} + 1}{r^{r_{n+1}}} = 1$

نیزه ۱

۱۲ ساله یعنی ۳۴ روز

نیزه ۱

115

رفع الجذر

نقطة 2

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نقطة 1

حسن ربيع طريف

$$\text{Hop} \quad \frac{r - \frac{v}{r\sqrt{x}}}{r - \frac{v}{r\sqrt{x+1}}} \xrightarrow{x \rightarrow 1} \frac{r - \frac{v}{r}}{r - \frac{v}{r}} = -\frac{1r}{10} = -1, r$$

116

$$y = -1 \rightarrow \frac{r}{a} = -1 \rightarrow a = r$$

$$rx^r + bx + c = a$$

$$S = -\frac{b}{r} = -1 \rightarrow b = r$$

$$P = \frac{c}{r} = -r \rightarrow c = -r^2$$

$$f(-1) = \frac{-r - r^2}{r - r - \varepsilon} = \frac{0}{r} = 1, r$$

117

$$x = r \rightarrow y = 1$$

$$f'(x) = \frac{\omega\sqrt{x} - \frac{1}{r\sqrt{x}}(\omega x - r)}{(\sqrt{x})^r} \rightarrow m = \frac{r}{r}$$

$$y - 1 = \frac{r}{r}(x - r) \xrightarrow{x=0} y = r$$

118

$$S = -\frac{r}{r} = \tan \alpha + \tan \beta$$

$$P = -\frac{1}{r} = \tan \alpha \cdot \tan \beta$$

$$\tan(\alpha + \beta) = \frac{\tan \alpha + \tan \beta}{1 - \tan \alpha \cdot \tan \beta} = \frac{-\frac{r}{r}}{1 - (-\frac{1}{r})}$$

$$= -1$$

حسن ربيع طريف - محمد بن مكي - ربيع 1437 هـ

$$f(x) = \begin{cases} (x-1)[x] & 0 < x < 2 \\ x^r + ax + b & x \geq 2 \text{ or } x \leq 0 \end{cases}$$

$$\lim_{x \rightarrow 0^+} f(x) = -1 \times 0 = 0 \rightarrow b = 0$$

$$\lim_{x \rightarrow 0^-} f(x) = b$$

$$\lim_{x \rightarrow 2^+} f(x) = 1 \times 1 = 1 \rightarrow r + ra = 1 \rightarrow$$

$$\lim_{x \rightarrow 2^-} f(x) = r + ra \quad a = -\frac{r}{r}$$

119

$$g(x) = f(\sqrt{1 + \tan^2 x})$$

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

$$x = \frac{\pi}{4} \rightarrow \frac{\sqrt{r}}{r} = r \sqrt{r} \times f'(r) \Rightarrow f'(r) = \frac{1}{r}$$

120

$$\frac{f(4) - f(0)}{4 - 0} = \frac{r - r}{4 - 0} = -1$$

$$\frac{-rx + r}{r \sqrt{1 - x^r + rx}} = \frac{-x + r}{\sqrt{1 - x^r + rx}}$$

$$\frac{-x + r}{\sqrt{1 - x^r + rx}} = -1 \xrightarrow{r} x^r - rx + r = 1 - x^r + rx$$

$$\Rightarrow rx^r - rx - 1r = 0$$

$$\Rightarrow x = \frac{1 \pm 10\sqrt{r}}{r} = r \pm \frac{10}{r} \sqrt{r}$$