Subject.
Day. Month. Year. ۱۴ شنبه ... دوم ریاضی

ایلیا ...

۱۷٫۱۷۵

۱) ۱٫۱۷۵

الف) ext min $\begin{cases} x=\frac{4}{4}=1 \\ y=\frac{16-8}{-8}=\cancel{-\frac{1}{2}}\ -1 \end{cases}$

ب) ext max $\begin{cases} x=\frac{3}{4} \\ y=\frac{9-40}{8}=\frac{-31}{8} \end{cases}$

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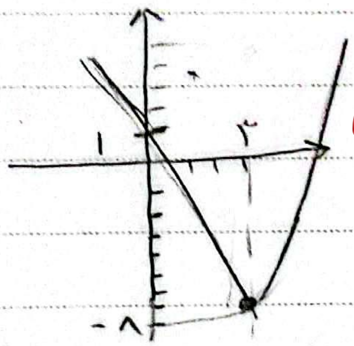
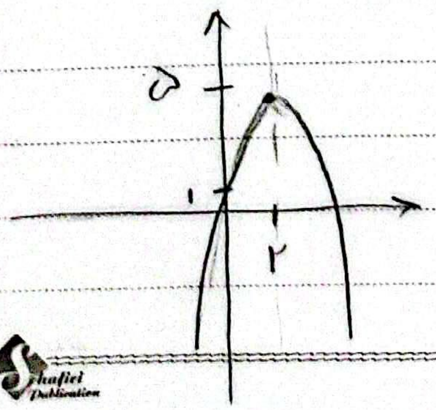
الف) ext min $\begin{cases} x=\frac{6}{2}=3 \\ y=\frac{\cancel{34}-4}{-4}\ \frac{32}{-4}=-8 \end{cases}$



ب) ext max $\begin{cases} x=\frac{4}{2}=2 \\ y=\frac{16+4}{4}=5 \end{cases}$



Subject.

Day. Month. Year.

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$$x^2 - x - 2 = 4x^3 + kx^2 - 9x - 2$$

$$4x^3 + (k-1)x^2 - 8x = (x^2 - x - 2)x$$

$$3x^3 + kx^2 - 6x \xrightarrow{\div x} 3x^2 + kx - 6 = x^2 - x - 2$$

$$2x^2 + (k+1)x - 4 = x^2 - x - 2$$

$$\cancel{x^2} + (k+2)x \cancel{-2} \cancel{=} \cancel{x^2} - x \cancel{-2}$$

$$k + 2 = 0 \qquad \boxed{k = -2}$$

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$$\sqrt{\beta} - \sqrt{\alpha} = 1 \qquad \sqrt{m} = 1 \Rightarrow m = 1$$

$$\underbrace{\beta + \alpha}_{3m} - 2\sqrt{\underbrace{\alpha\beta}_{m}} = 1$$

$$3m - 2\sqrt{m} - 1 = 0 \Rightarrow 3t^2 - 2t - 1 = 0$$

$$t = 1 \text{ یا } -\frac{1}{3}$$

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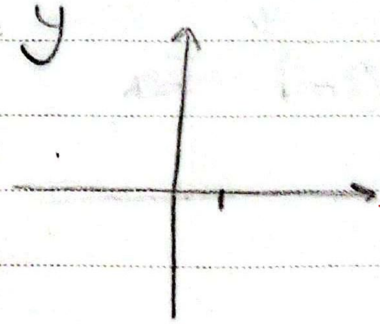
$$\boxed{P = \frac{-m}{2} = -\frac{1}{2}}$$

Subject.
Day. Month. Year.

۵

$$2x^2+(-m-2)x+m=y$$



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$$x=1 \;,\; \frac{m}{2}$$

$$\frac{2-m}{2}$$

$$\frac{\left|1-\cancel{\frac{m}{2}}\right|\times m}{1\;\cancel{2}}=\frac{3}{2\cdot 4} \qquad \frac{2m-m^2}{\cancel{4}}=\frac{3}{\cancel{4}}$$

$$2m-m^2=3 \Rightarrow m^2-2m+3=0$$

$$m=+2 \;,\; -1$$

$$\frac{-b}{2a}=\frac{m}{2}=\boxed{\frac{3}{2}\;,\;-\frac{1}{2}}$$

تیع min دار

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$$a>0$$

$$\frac{3-4a^2}{-4a}=\frac{7}{8} \qquad \frac{4a^2-3}{16a}=\frac{7}{8\cdot 2}$$

$$8a^2-6=7a$$

$$\frac{7\pm\sqrt{\cancel{49+192}\;241}}{16} \Leftarrow 8a^2-7a-6=0$$

$$\frac{7\pm\sqrt{241}}{16}$$

قابل قبول

Subject
Day. Month. Year.

$\sqrt{(a+١)^{٢} - ٤a} = ٢$ (٧) ٣

$\sqrt{a^{٢} + ٢a + ١ - ٤a} = ٢$ $x^{٢} - ١ = ٠ \rightarrow \pm ١$

$\sqrt{a^{٢} - ٢a + ١} = ٢$ $x^{٢} - ٤x + ٣ = ٠$ $١ \leftarrow \rightarrow ٣$

$\sqrt{(a-١)^{٢}} = ٢$

$a - ١ = ٢$ یا $a - ١ = -٢$

$a = ٣$ $a = -١ \rightarrow$ غ ق ق

$\sqrt{(٣a+١)^{٢} - ٤b} = ٢$

$\sqrt{١٠٠ - ٤b} = ٢$ $x^{٢} - ١٠x + ٢٤ = ٠ \rightarrow ٦ , ٤$

$١٠٠ - ٤b = ٤$

$٩٦ = ٤b$

$٢٤ = b$

$\boxed{٢٤ - ٣ = ٢١}$

(٨) ٣

$$S = \begin{cases} x_S = \dfrac{-٤a}{-٢a} = \dfrac{١}{٢} \\ y_S = \dfrac{a^{٢} + ٨a}{+٢a} = \dfrac{a+٨}{٤} \end{cases}$$

$S_p \begin{cases} \frac{\ }{٤} \\ \frac{b^{٢}+٨b}{٤b} = \frac{b}{٤}+٢ \end{cases}$

Subject. Day. Month. Year.

$\frac{a}{٤}+٢ = \frac{b}{٢}+\frac{b}{٢}-١$ $\qquad$ $\frac{-a}{١٤}+\frac{a}{٤}+\cancel{٢} = \frac{b}{٤}+\cancel{٢}$

$-\frac{a}{٤} = b-a$

$a = -١٢$ $\qquad$ $\boxed{٣ = b-a}$

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$P = \frac{\beta}{٢٥\alpha} = \beta\alpha \Rightarrow ٢٥\alpha^{٢}-١=٠$

$\alpha = \frac{١}{٥}, -\frac{١}{٥}$

$\frac{-٢}{٢٥\alpha} = \alpha+\beta \longrightarrow -\frac{٤}{٥} = \frac{١}{٥}+\beta$

$-١ = \frac{-٥}{٥} = \beta$

$\frac{+٤}{٥} = -\frac{١}{٥}+\beta \rightarrow \beta = ١$

$\beta > \alpha \Rightarrow \beta = ١ , \alpha = -\frac{١}{٥}$

$-٥x^{٢}+٤x+١ = y$

$S = \begin{cases} x = \frac{+٤}{١٠} \\ y = \frac{١٤+٢٠}{+٢٠} \end{cases}$

ربع اول

Subject.
Day. Month. Year.

۵

(۱۰)

$$S = a^2+b^2-12 \Rightarrow a+b = a^2+b^2-12$$

$$\cancel{a^2-a+b^2-b-12=0}$$

$$\cancel{0=(a-2)(a+2)+(b-2)(b+2)}$$

$$\cancel{a=2 \quad b=2}$$

$$\cancel{a+b=4}$$

$$x^2-\underbrace{(a^2+b^2-12)}_{S=\frac{-b}{a}}x+\underbrace{a+b-1}_{P=ab}=0$$

$$a^2+b^2-12=\frac{-b}{a} \rightarrow S^2-2P-12=S \quad I$$

$$a+b-1=ab \rightarrow S-1=P \quad II$$

$$I, II \rightarrow S^2-2(S-1)-12=S \rightarrow S^2-3S-10=0$$

$$(S-5)(S+2)=0$$

$S=5$ قابل قبول

$S=-2$ غ ق ق چون هر دو منفی هستند