

نام و نام خانوادگی پروردگار پاسخنامه تشریحی تکلیف شماره ۱۰۰ کلاس آ.م. حسن

الف) $x^2 - 4x + 1 = 0 \rightarrow x^2 - 4x = -1 \rightarrow \frac{-4}{2} = -2 \quad (-2)^2 = 4$
 $x^2 - 4x + 4 = -1 + 4 \rightarrow (x-2)^2 = 3 \xrightarrow{\text{جذبات}} x-2 = \pm\sqrt{3} \rightarrow x = 2 \pm \sqrt{3}$
 $(x-2)^2$

ب) $x^2 + 14x + 7 = 0$
 $x^2 + 14x = -7 \rightarrow \frac{14}{2} = 7 \rightarrow 7^2 = 49 \rightarrow x^2 + 14x + 49 = -7 + 49 \rightarrow (x+7)^2 = 42$
 $\xrightarrow{\text{جذبات}} x+7 = \pm\sqrt{42} \rightarrow x = -7 \pm \sqrt{42}$

الف) $x^2 - 4x + 4 = 0$
 $(x-2)(x-2) = 0 \rightarrow x = 2$

ب) $x^2 - 4x - 14 = 0$
 $(x-7)(x+2) = 0 \rightarrow x = 7, x = -2$

الف) $x^2 - 3x - 4 = 0$
 $\Delta = b^2 - 4ac = 9 + 16 = 25$
 $x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{3 \pm 5}{2}$
 $x_1 = \frac{3+5}{2} = 4, x_2 = \frac{3-5}{2} = -1$

ب) $2x^2 - 5x + \frac{1}{2} = 0$
 $\Delta = b^2 - 4ac = \frac{25}{4} - 2 = \frac{17}{4}$
 $x = \frac{5 \pm \sqrt{17}}{4}$
 $x_1 = \frac{5+\sqrt{17}}{4}, x_2 = \frac{5-\sqrt{17}}{4}$

الف) $x^2 - 3x + 2 = 0$
 $(x-2)(x-1) = 0 \rightarrow x = 2, x = 1$

ب) $5x^2 + x - 3 = 0$
 $\Delta = b^2 - 4ac = 1 + 60 = 61$
 $x = \frac{-1 \pm \sqrt{61}}{10}$
 $x_1 = \frac{-1+\sqrt{61}}{10}, x_2 = \frac{-1-\sqrt{61}}{10}$

الف) $4x^2 - 12x + 9 = 0$
 $(2x-3)^2 = 0 \rightarrow 2x-3 = 0 \rightarrow x = \frac{3}{2}$

ب) $3x^2 - 10x + 7 = 0$
 $(3x-7)(x-1) = 0 \rightarrow x = \frac{7}{3}, x = 1$

$$a) 2m^2 + 8m - 120 \Rightarrow \frac{-8 \pm \sqrt{64 + 960}}{4} \Rightarrow \frac{-8 \pm 32}{4} \Rightarrow \begin{cases} 6 \\ -10 \end{cases}$$

$$b) 2m^2 - 5m + 2 = 0 \Rightarrow \frac{5 \pm \sqrt{25 - 16}}{4} = \frac{5 \pm 3}{4} \Rightarrow \begin{cases} 2 \\ \frac{1}{2} \end{cases}$$

$$b) 2m^2 - m + 2 = 0$$

$$c) 2m^2 - m + 120$$

$$\Delta \rightarrow 1 - 4(2)(2) \rightarrow -15$$

$$\Delta \rightarrow 1 - 4(2)(120) \rightarrow -960$$

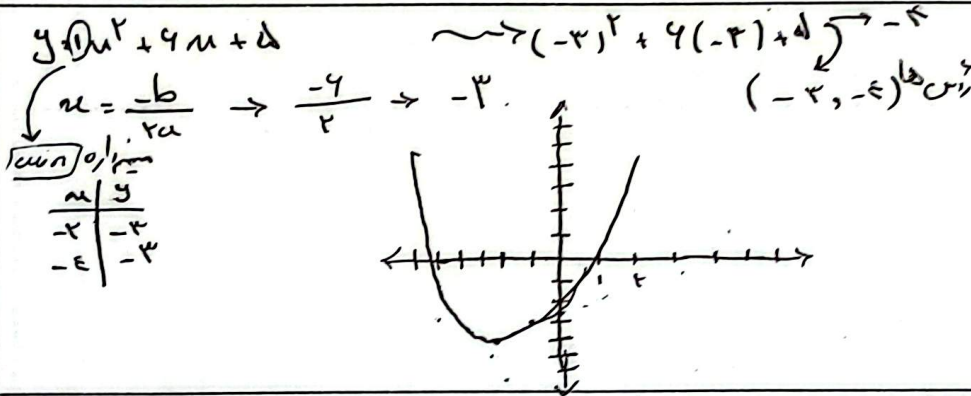
دالة حقیقیہ ہے، $\Delta < 0$ ۔

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$$2m^2 - 3m + a = 0$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} \Rightarrow \frac{3 \pm \sqrt{9 - 4a}}{4}$$

$\Delta > 0 \Rightarrow a < \frac{9}{4}$ (الف)
 $\Delta = 0 \Rightarrow a = \frac{9}{4}$ (ب)
 $\Delta < 0 \Rightarrow a > \frac{9}{4}$ (ج)
 $\Delta \geq 0 \Rightarrow a \leq \frac{9}{4}$ (د)



الف)

ب)

الف) $y = 9m^2 + 5m - 3$

$m = \frac{-b}{2a} \rightarrow \frac{-5}{18} \rightarrow -\frac{5}{18}$

$y = -(m)^2 + 5(m) - 3 \rightarrow 1$

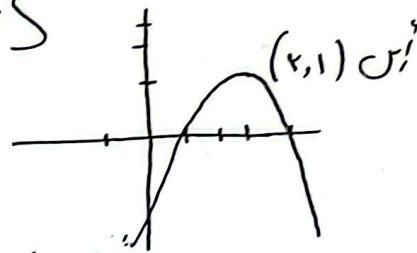
y_{20}

$-m^2 + 5m - 3 = 0$

$(m-1)(m-3) = 0 \Rightarrow m = 1, 3$

$(1, 10)$

$(3, 10)$



الف)

ب)

$m^2 - 3m - 2 = 0$

$p = \frac{c}{a} \rightarrow \frac{-2}{1} = -2$

$s = \frac{-b}{a} \rightarrow \frac{3}{1} = 3$

الف) $s^2 - 3p \rightarrow m^2 - 3(-2) \rightarrow 9 \in [4, 13]$

الف)

ب) $s^2 - 3sp \rightarrow \frac{m^2}{27} - 3(3)(-2) \rightarrow 27 + 18 = 45$

ب)