(1) $-\frac{b}{2a} = -\frac{1}{2a-2} \to -1 = 4a-4 \to a = \frac{3}{4}$

$-\frac{1}{4}x^2 + x + 3 = y \to x = \frac{-1 \pm 2}{-\frac{1}{2}} \to$ ± ریشه $= 6$

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(2) $\Delta > 0 \to 25 - 4m^2 > 0 \to (5-2m)(5+2m) > 0$

$m\gamma < 0$ $-\frac{5}{2}$ $\frac{5}{2}$ $- \;+\; -$ $\xrightarrow{\cap} m \in \left(-\frac{5}{2}, 0\right)$

$x^2 - Sx + P = y$

$S = \frac{3-\sqrt{5}+3+\sqrt{5}}{3} = 2$

$P = \frac{9-5}{9} = \frac{4}{9}$

$\to x^2 - 2x + \frac{4}{9} = y \to$

$9x^2 - 18x + 4 = 9y$

(3)

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(4)

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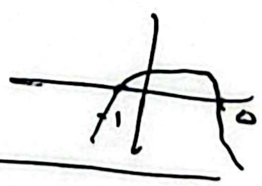
(5) $f(x) = a(x-x_0)^2 + y_0 \to f(x) = a(x-2)^2 + 9$

$5 = 4a + 9 \to a = -1 \to f(x) = -x^2 + 4x + 5$

$x = \frac{-4 \pm 6}{-2}$ -1, 5 $\to (-1, 5)$



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(6) $\frac{1}{\alpha} + \frac{1}{\beta} = \frac{S}{P} \to \frac{\frac{7}{\alpha}}{\frac{9\beta}{\alpha}} = \frac{7}{9\beta}$

(9) $f(x) = a(x-٢)^{٢} + ٦$

$٤ = ٤a + ٦ \longrightarrow a = -\frac{1}{٢}$

$f(x) = -\frac{1}{٢}x^{٢} + ٢x + ٤$

$x = \frac{-1 \pm ٣}{-1}$ — $x = ٤$ / $x = -٢ \longrightarrow \frac{1}{٤} - \frac{1}{٢} = -\frac{1}{٤}$