

[illegible]

ج-۱۰) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$

ب-۴) $(3, m^2)$ و $(3, m+2) \leadsto m^2 = m+2 \leadsto m^2 - m - 2 = 0$

$m=2 \rightarrow (2, 1), (2, 4) \times$

$m=-1 \rightarrow (-1, 4), (-1, 3) \times$ بازای هیچ مقدار m عبارت تکرر نیست!

۵) $(1, a^2)$ و $(1, 3a-2) \leadsto a^2 = 3a-2 \rightarrow a^2 - 3a + 2 = 0$

$a=1 \leadsto f(n) = \{(1, 1), (1, 1), (1, 5)\} \times$

$a=2 \leadsto f(n) = \{(1, 4), (1, 4), (4, 1)\} \checkmark$ $a=2$ قابل قبول است!

ب-۹) $y''' + 2y = \sin x$

$\int y_1''' + 2y_1 = \sin x_1$

$x_1 = x_2 \rightarrow$

$y_1''' + 2y_1 = y_2''' + 2y_2$

$\int y_2''' + 2y_2 = \sin x_2$

$y_1''' - y_2''' + 2(y_1 - y_2) = 0 \leadsto (y_1 - y_2) \overset{I}{(y_1'' - y_2'')} \overset{II}{(y_1' + y_1 y_2' + y_2' + 2)} = 0$

$I \leadsto y_1 - y_2 = 0 \leadsto y_1 = y_2$ این جواب تکرر است پس تکرر نمی‌شود

$II \leadsto y_1'' + y_1 y_2' + y_2' + 2 = 0 \leadsto y_1 = \frac{-y_2' \pm \sqrt{y_2'^2 - 4(y_2' + 2)}}{2} \times$

$\leadsto y_1 = y_2$ تکرر نیست!