MATH 10B, SPRING 2017, QUIZ 9

(1) Solve the following recursion relation with the given initial conditions.

$$a_n = -4a_{n-1} + 5a_{n-2}$$
$$a_0 = 3, \ a_1 = 9.$$

(2) Compute the following indefinite integral.

$$\int \frac{3x - 9}{x^2 + 4x - 5} \, dx.$$

(3) Find a solution to the following differential equation.

$$\frac{dy}{dt} = \frac{3t - 9}{y^2(t^2 + 4t - 5)}.$$