Home work 1

Solve the following systems using reduced row echelon form

Q.No.1

$$2x_1 - 3x_2 + 5x_3 = 7$$
$$9x_1 - x_2 + x_3 = -1$$
$$x_1 + 5x_2 + 4x_3 = 0$$

Q.No.2

$$x - y + 2z - w = -1$$
$$2x + y - 2z - 2w = -2$$
$$-x + 2y - 4z + w = 1$$
$$3x \qquad\qquad - 3w = -3$$

Q. No. 3

In each part, determine whether the given 3-tuple is a solution of the linear system

$$x + 2y - 2z = 3$$
$$3x - y + z = 1$$
$$-x + 5y - 5z = 5$$

a. $\left(\frac{5}{7}, \frac{8}{7}, 1\right)$ b. $\left(\frac{5}{7}, \frac{8}{7}, 0\right)$ c. $(5, 8, 1)$

d. $\left(\frac{5}{7}, \frac{10}{7}, \frac{2}{7}\right)$ e. $\left(\frac{5}{7}, \frac{22}{7}, 2\right)$