PROBLEMS ON LINEAR EQUATIONS

II.5 The system of equations $x + 2y - z = 4$, $3x - y + 2z = 5$ and $x + 9y - 14z = 11$ has how many solutions for x,y,z?
(a) 0   (b) 1   (c) 2   (d) 3   (e) more than 3

IV.22 The system of equations $x + y + z = 1$, $x - y + 2z = 3$, $2x + 4y + z = t$ (a) has exactly one solution for each value of t   (b) has infinitely many solutions for each value of t   (c) has no solutions for any value of t   (d) has infinitely many solutions for exactly one value of t   (e) has exactly one solution for exactly one value of t ?

VII.3 If the system of equations $x + y + z = 6$, $x - y + z = 4$, $x + rz = 5$ has more than one solution for x,y,z then
$r =$ (a) 5   (b) 4   (c) 1   (d) 0   (e) -2

VIII.11 Given the system of equations $2x + 3y - 12z = -1$, $x - 2y - 5z = 18$, $x - 5y + 7z = 19$, if $x = a$, $y = b$, $z = c$ is a solution then   (a) $a = 3c + 4$ (b) $a = 6c - 9$
(c) $a = 2c + 7$ (d) $a = 5c + 6$ (e) $a = 4c + 7$

IX.14 If the three lines $ax + by = c$, $dx + ey = 0$, and $x + y = 1$ all have a common point of intersection then
(a) $ad + be = c$ (b) $ae + bd = c$ (c) $dc - db + ea - ec = 0$
(d) $da - dc + ec - eb = 0$ (e) $c(d + e) = a + b$

X.3 Given the system of equations $2x - y + z = 0$, $x + 3y - z = 2$, $x + 10y - 4z = 6$ if $x = a$, $y = b$, $z = c$ is a solution and $a + b = 1/7$ then $c =$
(a) -5   (b) 3   (c) 3/7   (d) 55/216   (e) 23/7