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ERIC GAMBRAN (2015736)

e) $2x + 5y = 39$

$4x + y = 33$

$1(2x + 5y) = 39 \times 1$

$-5(4x + y) = 33 \times -5$

$2x + 5y = 39$

$-20x - 5y = -165$

$= -18x = -126$

$= \frac{-18x}{-18} = \frac{-126}{-18}$

$x = 7$

$x = 7$

$4(7) + y = 33$

$28 + y = 33$

$28 - 28 + y = 33 - 28$

$y = 5$

ii) $3x - y = -5$

$-7x + 3y = 15$

$3(3x - y) = -5 \times 3$

$1(-7x + 3y) = 15 \times 1$

$9x - 3y = -15$

$-7x + 3y = 15$

$2x = 0$

$\frac{2x}{2} = \frac{0}{2}$

$x = 0$

$-7(0) + 3y = 15$

$3y = 15$

$\frac{3y}{3} = \frac{15}{3}$

$y = 5$

iii) $x^2 - 7x + 3 = 0$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-(-7) \pm \sqrt{(-7)^2 - 4(1)(3)}}{2(1)}$$

$$\frac{7 \pm \sqrt{49 - 12}}{2(1)}$$

$$= \frac{7 \pm \sqrt{37}}{2}$$

~~$\frac{7 \pm \sqrt{12.5}}{2}$~~

~~$= \frac{7}{2} + 6.08$~~

~~$x = 3.5 + 6.54$~~

or ~~$\frac{7}{2} - 6.08$~~

$x = 3.5 - 6.08$