Handout #3

① $4(3x+1)-2(3x-2)=15$

$12x+4-6x+4=15$

$6x+8=15$

$6x=7$

$x=\frac{7}{6}$

② $\frac{3}{4}(r+3)-\frac{1}{6}(3r+2)=\frac{1}{2}r$

$6(r+3)-1(3r+2)=4r$

$6r+3-3r-2=4r$

$3r+1=4r$

$1=r$

③ $(x-1)^2-5=4$

$(x-1)^2=9$

$x-1=3$

$x=4$

④ $3(2c-7)^2=15$

$(2c-7)^2=5$

$4c^2-14c-14c+49=5$

$4c^2-28c+49=5$

$4c^2-28c+44=0$

$4(c^2-7c+11)=0$

$\frac{7\pm\sqrt{(-7)^2-4(1)(11)}}{2(1)}$

$\frac{7\pm\sqrt{49-44}}{2}$ $\quad 4\left(\frac{7\pm\sqrt{5}}{2}\right)$

(9) $2z^2 = 2z + 1$

$2z^2 - 2z - 1 = 0$

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

$$\frac{2 \pm \sqrt{4 + 8}}{4}$$

$$\frac{2 \pm \sqrt{12}}{4}$$

(10) $2z^2 = 2z - 1$

$2z^2 - 2z + 1 = 0$

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

$$\frac{2 \pm \sqrt{4 - 8}}{4}$$

$$\frac{2 \pm \sqrt{-4}}{4}$$

No Real Solution