Handout 3

(11) $A = \frac{b}{b-c}$, Solve for b

$A(b-c) = b$

$Ab - Ac = b$

$-Ac = b - Ab$

$-Ac = b(1-A)$

$\boxed{b = -\frac{Ac}{(1-A)}}$

(12) $2p = 3pc + f$, Solve for p

$2p - 3pc = f$

$p(2-3c) = f$

$\boxed{p = \frac{f}{(2-3c)}}$

(13) $gf + 3g = 4f - 6gf$, Solve for f

$7gf = 4f - 3g$

$g(7f) = 4f - 3g$

$\boxed{g = \frac{(4f-3g)}{7f}}$

Handout 5

(1) $A = \frac{c}{3}(A+B)$, Solve for A

$3A = c(A+B)$

$3A = Ac + Bc$

$3A - Ac = Bc$

$A(3-c) = Bc$

$\boxed{A = \frac{Bc}{(3-c)}}$

(2) $(3x-9)^2 = 10$

$3(x-3)^2 = 10$

$3(x^2-6x+9) = 10$

$3x^2-18x+27-10=0$

$3x^2-18x+17=0$

$$\frac{18 \pm \sqrt{(-18)^2-4(3)(17)}}{2(3)}$$

$$\frac{18 \pm \sqrt{324-204}}{6}$$

$$\boxed{\frac{18 \pm \sqrt{120}}{6}}$$

(3) $(n+4)(n-3) = 10$

$n^2+4n-3n-12 = 10$

$n^2+n-12 = 10$

$n^2+n-22 = 0$

$$\frac{-1 \pm \sqrt{(1)^2-4(1)(-22)}}{2(1)}$$

$$\boxed{\frac{-1 \pm \sqrt{89}}{2}}$$

(4) $\sqrt{x+12} - x = 0$

$\sqrt{x+12} = x$

$x+12 = x^2$

$x^2-x-12 = 0$

$(x+3)(x-4) = 0$

$\boxed{x = 4, -3}$

(5) $\frac{1}{2}(3x-6) = \frac{1}{4}(x+9)$

$2(3x-6) = (x+9)$

$6x-12 = x+9$

$5x = 21$

$x = \frac{21}{5}$

(6) $2 - \frac{1}{y-2} = \frac{y-3}{y-2}$

$2(y-2) - 1 = y-3$

$2y-4-1 = y-3$

$2y-5 = y-3$

$y = 2$

No Real Solution

(7) $5(r-6) = 3[2-(5-r)]$

$5r-6 = 3[2-5+r]$

$5r-6 = 6-15+3r$

$5r-6 = -9+3r$

$2r = -3$

$r = -\frac{3}{2}$

(8) $L = Bx - \frac{5}{2L}$, Solve for B

$Bx = L + \frac{5}{2L}$

$B = \frac{L + \frac{5}{2L}}{x}$

(9) $\sqrt[3]{5-x} = 2$

$5 - x = 8$

$-x = 3$

$x = -3$

(10) $\frac{2}{a-5} + \frac{1}{a+5} = \frac{11}{a^2-25}$

$\frac{2}{(a-5)} + \frac{1}{(a+5)} = \frac{11}{(a+5)(a-5)}$

$2(a+5) + (a-5) = 11$

$2a + 10 + a - 5 = 11$

$3a + 5 = 11$

$3a = 6$

$a = 2$