(2) $kx + 3y = k - 3$
$12x + ky = k$

$\frac{a_1}{a_2} = \frac{k}{12}$, $\frac{b_1}{b_2} = \frac{3}{k}$, $\frac{c_1}{c_2} = \frac{k-3}{k}$

For no solution

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$$

$$\frac{k}{12} = \frac{3}{k} \neq \frac{k-3}{k}$$

$\frac{k}{12} = \frac{3}{k}$
$\Rightarrow k^2 = 36$
$\Rightarrow k = \pm 6$

$\frac{3}{k} \neq \frac{k-3}{k}$
$\Rightarrow k^2 - 3k \neq 3k$
$\Rightarrow k^2 - 6k \neq 0$.
$\Rightarrow k(k-6) \neq 0$
$\Rightarrow k \neq 0, \; k - 6 \neq 0$
$\Rightarrow k \neq 0 \Rightarrow k \neq 6$

$$\boxed{\therefore k = -6}$$

(3) $x + 2y = 1$
$(a-b)x + (a+b)y = a + b - 2$

For in. Many Solutions

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$$

$$\frac{1}{a-b} = \frac{2}{a+b} = \frac{1}{a+b-2}$$

$\frac{1}{a-b} = \frac{2}{a+b}$
$\Rightarrow a + b = 2a - 2b$
$\Rightarrow a = 3b \; \ldots (1)$

$\frac{2}{a+b} = \frac{1}{a+b-2}$
$\Rightarrow 2a + 2b - 4 = a + b$
$\Rightarrow a + b = 4$
using i
$3b + b = 4$
$\Rightarrow 4b = 4$

$\Rightarrow b = 1$
Sub (1)
$a = 3 \times 1$
$= 3$

$$\boxed{\therefore a = 3, \; b = 1}$$