Simplify: $\frac{2u}{u-1} + \frac{1}{u} - \frac{2u-1}{u^2-u}$.

$u-1 = (u-1)$

$u = (u)$

$u^2-u = (u-1)(u)$

LCD $= (u-1)(u)$

$u(u-1)$

$$\frac{2u^2}{u(u-1)} + \frac{u-1}{u(u-1)} - \frac{2u-1}{u(u-1)}$$

$$\frac{2u^2+u-1-2u+1}{u(u-1)} = \frac{2u^2-u}{u(u-1)} = \frac{u(2u-1)}{u(u-1)}$$

$$= \frac{2u-1}{u-1}$$

Simplify: $\frac{v}{v+1} + \frac{3}{v-1} - \frac{6}{v^2-1}$.

$v+1 = (v+1)(\quad)$

$v-1 = (\quad)(v-1)$

$v^2-1 = (v+1)(v-1)$

$LCD = (v+1)(v-1)$

$$\frac{v^2-v}{(v+1)(v-1)} + \frac{3v+3}{(v+1)(v-1)} - \frac{6}{(v+1)(v-1)}$$

$$\frac{v^2-v+3v+3-6}{(v+1)(v-1)} = \frac{v^2+2v-3}{(v+1)(v-1)} = \frac{(v+3)(v-1)}{(v+1)(v-1)}$$

$$= \frac{v+3}{v+1}$$

Simplify: $\frac{3w}{w+2} + \frac{2}{w+7} - \frac{17w+4}{w^2+9w+14}$.

$w+2 = (w+2)$

$w+7 = (w+7)$

$w^2+9w+14 = (w+2)(w+7)$

$LCD = (w+2)(w+7)$

$$\frac{3w^2+21w}{(w+2)(w+7)} + \frac{2w+4}{(w+2)(w+7)} - \frac{17w+4}{(w+2)(w+7)}$$

$$\frac{3w^2+21w+2w+4-17w-4}{(w+2)(w+7)} = \frac{3w^2+6w}{(w+2)(w+7)} = \frac{3w(w+2)}{(w+2)(w+7)}$$

$$= \frac{3w}{w+7}$$