6) Multiply or divide (as required) and simplify.

a) $\frac{5x+5}{x-2} \cdot \frac{x^2-4x+4}{x^2-1} = \frac{5(x+1)}{x-2} \cdot \frac{(x-2)(x-2)}{(x-1)(x+1)}$

$= \frac{5(x-2)}{x-1}$

b) $\frac{4y-12}{12} \div \frac{y-3}{3} = \frac{4y-12}{12} \cdot \frac{3}{y-3}$

$= \frac{4(y-3)}{12} \cdot \frac{3}{y-3}$

$= \frac{4 \cdot 3}{12} = 1$

c) $\frac{c^2+4c}{c^2+3c-4} \div \frac{3c}{c-1} = \frac{c^2+4c}{c^2+3c-4} \cdot \frac{c-1}{3c}$

$= \frac{c(c+4)}{(c+4)(c-1)} \cdot \frac{c-1}{3c}$

$= \frac{c}{3c} = \frac{1}{3}$

8) Find the LCM

a) 12, 20, 30

$12 = 2 \cdot 2 \cdot 3$
$20 = 2 \cdot 2 \cdot 5$
$30 = 2 \cdot 3 \cdot 5$

$LCM = 2^2 \cdot 3 \cdot 5 = 60$

b) t-2, t+2, t^2-4

$t-2$
$t+2$
$t^2-4 = (t-2)(t+2)$

$LCM = (t-2)(t+2)$