Time Out: Brøk (2.5)

1) Skriv så enkelt som mulig $\frac{18}{a^2-9}-\frac{3}{a-3}$

2) Kontrollere svaret i 1) for $a=-\frac{3}{4}$

Løsning:

1)

$\frac{18}{a^2-9}-\frac{3}{a-3}$ starter med fellesnevner, husk konjugatsetningen.

$=\frac{18}{(a+3)(a-3)}-\frac{3(a+3)}{(a+3)(a-3)}$

$=\frac{18-3a-9}{(a+3)(a-3)}$ pass på fortegn

$=\frac{9-3a}{(a+3)(a-3)}=\frac{3(3-a)}{(a+3)(a-3)}=\frac{-3(a-3)}{(a+3)(a-3)}=\frac{-3}{a+3}$

2)

Kontroll $a=-\frac{3}{4}$

svaret:

$\left.\frac{-3}{a+3}\right|_{a=-\frac{3}{4}}=\frac{-3\cdot(-4)}{-\frac{3}{4}\cdot(-4)+3\cdot(-4)}=\frac{12}{3-12}=\frac{12}{-9}=-\frac{4}{3}$

Oppgaven: $\left.\frac{18}{a^2-9}-\frac{3}{a-3}\right|_{a=-\frac{3}{4}}=\frac{18}{\frac{9}{16}-9}-\frac{3}{\left(-\frac{3}{4}\right)-3}$

$=\frac{2}{\frac{1}{16}-1}+\frac{12}{3+12}=\frac{32}{1-16}+\frac{12}{15}=-\frac{32}{15}+\frac{12}{15}=-\frac{20}{15}=-\frac{4}{3}$ Lik verdi!