

Løsningsforslag Modul 7: Algebra.

Vårn 2017

a) $4a - (2a + 1) + (a + 3)$

$$4a - 2a - 1 + a + 3 = \underline{\underline{3a + 2}}$$

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

Finnes FN ved a
 $(a-1) \cdot (2a+1) =$

$$\underline{\underline{2a^2 - a - 1}}$$

$$\frac{a \cdot (2a+1)}{a-1 \cdot (2a+1)} - \frac{2a \cdot (a-1)}{2a+1 \cdot (a-1)} \left. \begin{array}{l} \text{Utvider med} \\ \text{møttall nevner.} \end{array} \right\}$$

$$\frac{2a^2 + a - (2a^2 - 2a)}{2a^2 - a - 1} = \frac{2a^2 + a - 2a^2 + 2a}{2a^2 - a - 1} = \underline{\underline{\frac{3a}{2a^2 - a - 1}}}$$

Vårn 2016

a) $2a + (3a - 4) - (a - 1) =$

$$2a + 3a - 4 - a + 1 = \underline{\underline{4a - 3}}$$

$$b) \frac{a^2 - b^2}{3a^2} \cdot \frac{a}{a+b} \left. \vphantom{\frac{a^2 - b^2}{3a^2} \cdot \frac{a}{a+b}} \right\} \text{Faktorisering ved hjælp af 3. kvadratst.}$$

$$\frac{\cancel{(a+b)} \cdot (a-b) \cdot \cancel{a}}{3 \cdot a \cdot \cancel{a} \cdot \cancel{(a+b)}} = \frac{a-b}{3a}$$

Våren 2015

$$a) 2a - (a+3) = 2a - a - 3 = \underline{a-3}$$

$$b) \frac{4a^2 - 1}{6} : \frac{2a+1}{3} = \left. \vphantom{\frac{4a^2 - 1}{6} : \frac{2a+1}{3}} \right\} \text{Vanlig brøkregler} \\ \text{Snu behandle brøken.}$$

$$\frac{4a^2 - 1 \cdot 3}{6 \cdot 2a+1} = \left. \vphantom{\frac{4a^2 - 1 \cdot 3}{6 \cdot 2a+1}} \right\} \begin{array}{l} 4a^2 - 1 = 3. \text{ kvadrat} \\ \text{Sætning} \\ (2a+1)(2a-1) \end{array}$$

$$\frac{\cancel{(2a+1)} \cdot (2a-1) \cdot \cancel{3}}{2 \cdot \cancel{3} \cdot \cancel{(2a+1)}} = \frac{2a-1}{2}$$

Våren 2014

$$a) 3a - (2a+4) = 3a - 2a - 4 = \underline{a-4}$$

$$b) \frac{x^2 + 2x}{x^2 - 4} = \frac{x \cancel{(x+2)}}{\cancel{(x+2)}(x-2)} = \frac{x}{x-2}$$

c) $\frac{2a}{a+2b} - \frac{3a}{2a+4b} \quad \Bigg| \quad \text{FN} = \frac{2a+4b}{2a+4b}$

Utrikes med 2 $\rightarrow \frac{4a - 3a}{2a + 4b} = \underline{\underline{\frac{a}{2a+4b}}}$

Våren 2013

a) $3a - (2a + 3) = 3a - 2a - 3 = \underline{\underline{a - 3}}$

b) $a(a+2) - (2a-1)^2 =$
 $a^2 + 2a - (4a^2 - 4a + 1) =$
 $a^2 + 2a - 4a^2 + 4a - 1 = \underline{\underline{-3a^2 + 6a - 1}}$

Hush
 Parenthes ved -

$4a^2$	$-2a$	$2a$
$-2a$	1	-1
$2a$	-1	

$\rightarrow 4a^2 - 4a + 1$

Alternativ til 2. kvadratutløsning.