Arbeidshefte

Rasjonale uttrykk

Faktorisering

Kvadratsetningene
$(a+b)^2 = a^2 + 2ab + b^2$
$(a-b)^2 = a^2 - 2ab + b^2$

Konjungatsetningen
$(a+b)(a-b) = a^2 - b^2$

abc-formelen
$ax^2 + bx + c = 0$
$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$
$x = x_1 \vee x = x_2$
$ax^2 + bx + c = a(x-x_1)(x-x_2)$

Produktmetoden
$x^2 + bx + c = (x+x_1)(x+x_2)$
$x_1 + x_2 = b$
$x_1 \cdot x_2 = c$

Oppgave 1

1) $\frac{2x^2+6x-20}{2x-4} =$

2) $\frac{(x^2+x-6)(x+1)}{(x+1)(x^2-9)} =$

3) $\frac{(4x-4)(x+3)}{(x^2-9)(x-1)} =$

4) $\frac{(x^2-1)(x+4)}{(x^2-2x-3)(6x-6)} =$

Oppgave 2

1) $\frac{(x+2)(x^2-8x+15)}{(x-3)(5x-25)} =$

2) $\frac{(x^2+6x+8)(3x-12)}{(x^2-16)(4x+4)} =$

3) $\frac{(2x^2-32)(x^2-9)}{(2x+8)(x^2-3x-4)} =$

4) $\frac{(x^2-12x+35)(x^2+7x+10)}{(x^2-5x-14)(x^2-25)} =$

Oppgave 3

1) $\frac{6}{x-3} - \frac{5x+15}{x^2-9} + 1 =$

2) $\frac{3x}{x+3} - \frac{3}{x-3} - \frac{x^2-12x+9}{x^2-9} =$

3) $\frac{x+1}{x-1} - \frac{x-3}{2x-2} + \frac{1}{2} =$

Oppgave 4

1) $-\frac{4x}{x^2+x-2}+\frac{4x}{x-1}=$

2) $\frac{2}{x+2}+\frac{6x}{x^2-4}=$

Oppgave 5

1) $\frac{x}{2x-5} + \frac{3}{2x-5} =$

2) $\frac{x}{4x+8} + \frac{1}{12} - \frac{4x+5}{6x+12} =$

3) $\frac{x}{x^2-4x+3} + \frac{1}{x-3} =$

Oppgave 6

1) $\frac{x}{x^2-6x+9} + \frac{1}{2x-6} =$

2) $\frac{5}{2x-10} - \frac{x+10}{x^2-25} =$

Dette arbeidshefte : 

Løsningsforslag : 

10/03/24