

Arbeidshefte

Rasjonale uttrykk

Oppgave 1

Bruk kvadratsetningene

1) $\frac{x^2-12x+36}{2x^2-72} =$

2) $\frac{x^2+10x+25}{2x^2-50} =$

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

$$4) \frac{x^2-6x+9}{x-3} =$$

$$5) \frac{3x^2-27}{x+3} =$$

$$6) \frac{x^2-4xy+4y^2}{3xy-6y^2} =$$

$$7) \frac{9x^2-25}{3x+5} =$$

Oppgave 2

Bruk abc-formelen

1) $\frac{x^2+6x+5}{x+1} =$

2) $\frac{x^2-3x-40}{x+5} =$

3) $\frac{x^2+4x-21}{x-3} =$

4) $\frac{x^2-x-42}{x+6} =$

$$5) \frac{x^2+2x-35}{x+7} =$$

$$6) \frac{x^2+5x+4}{x+1} =$$

$$7) \frac{x^2+7x+10}{x+2} =$$

$$8) \frac{x^2+9x+8}{x+8} =$$

Oppgave 3

1) $\frac{x^2-9x+8}{x-1} =$

2) $\frac{9x^2-27x-36}{x-4} =$

3) $\frac{x^2-4x-45}{x+5} =$

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

5) $\frac{4x^2-7x-2}{4x+1} =$

6) $\frac{2x^2-7x-15}{x-5} =$

7) $\frac{2x^2-x-21}{x+3} =$

Oppgave 4

1) $\frac{2x^2+4x-6}{x^2-9} =$

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

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

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

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

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

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

8) $\frac{x^2+5x-14}{x-2} =$

Oppgave 5

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

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

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

$$7) \frac{(2x^2-32)(x^2-9)}{(2x+8)(x^2-3x-4)} =$$

$$8) \frac{(x^2-12x+35)(x^2+7x+10)}{(x^2-5x-14)(x^2-25)} =$$

Oppgave 6

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

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

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

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

$$5) \frac{2}{x+2} + \frac{6x}{x^2-4} =$$

Oppgave 7

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

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

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

$$4) \frac{x}{x^2-6x+9} + \frac{1}{2x-6} =$$

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

Oppgave 8

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

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

3) $\frac{x^3+6x^2+11x+6}{x+3} =$

4) $\frac{x^3-9x}{3x-9} =$

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

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

FASIT

Oppgave 1

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

3) $x - 4$

6) $\frac{x-2y}{3y}$

2) $\frac{x+5}{2(x-5)}$

4) $x - 3$

5) $3(x - 3)$

7) $3x - 5$

Oppgave 2

1) $x + 5$

4) $x - 7$

7) $x + 5$

2) $x - 8$

5) $x - 5$

3) $x + 7$

6) $x + 4$

8) $x + 1$

Oppgave 3

1) $x - 8$

4) $2x - 3$

7) $2x - 7$

2) $9(x + 1)$

5) $x - 2$

3) $x - 9$

6) $2x + 3$

Oppgave 4

1) $\frac{2(x-1)}{x-3}$

4) $\frac{1}{x+2}$

7) $2(x - 1)$

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

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

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

6) $x + 2$

8) $x + 7$

Oppgave 5

1) $x + 5$

4) $\frac{x+4}{6(x-3)}$

7) $\frac{(x+3)(x-3)}{x+1}$

2) $\frac{x-2}{x-3}$

5) $\frac{x+2}{5}$

3) $\frac{4}{x-3}$

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

8) 1

Oppgave 6

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

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

5) $\frac{4(2x-1)}{(x+2)(x-2)}$

2) 2

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

Oppgave 7

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

3) $\frac{2x-1}{(x-3)(x-1)}$

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

2) $-\frac{1}{3}$

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

Oppgave 8

1) $(x+2)(x-1)$

3) $(x+1)(x+2)$

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

2) $x^2 + x + 2$

4) $\frac{x(x-3)}{3}$

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