

Opgave 120

Reducer udtrykkene mest muligt:

1)

$$\begin{aligned}z &= 4(a + 5b) + 7(3a + b) \Leftrightarrow \\z &= 4a + 20b + 21a + 7b \Leftrightarrow \\z &= \underline{25a + 27b}\end{aligned}$$

2)

$$\begin{aligned}x &= 3(7a + b) + 8(a + 3b) \Leftrightarrow \\x &= 21a + 3b + 8a + 24b \Leftrightarrow \\x &= \underline{29a + 27b}\end{aligned}$$

3)

$$\begin{aligned}y &= a(a - b) + b(a + b) \Leftrightarrow \\y &= a^2 - ab + ab + b^2 \Leftrightarrow \\y &= \underline{a^2 + b^2}\end{aligned}$$

4)

$$\begin{aligned}p &= x(x - 2y) + 2y(x + 2y) \Leftrightarrow \\p &= x^2 - 2xy + 2yx + 4y^2 \Leftrightarrow \\p &= \underline{x^2 + 4y^2}\end{aligned}$$

Opgave 123

Sæt mest muligt uden for parentes:

1)

$$\begin{aligned}2a^2 - 4a &\Leftrightarrow \\a(2a - 4) &\Leftrightarrow \\&\underline{\underline{2a(a - 2)}}\end{aligned}$$

2)

$$\begin{aligned}4y^2 - 5y &\Leftrightarrow \\&\underline{\underline{y(4y - 5)}}\end{aligned}$$

3)

$$\begin{aligned}-10a + 15b &\Leftrightarrow \\&\underline{\underline{-5(2a + 3b)}}\end{aligned}$$

4)

$$\begin{aligned}2ab - 6a^2b &\Leftrightarrow \\&\underline{\underline{2a(-3a + 1)b}}\end{aligned}$$

5)

$$\begin{aligned}3x^2b - 6abx &\Leftrightarrow \\3x(xb - 2ab) &\Leftrightarrow \\&\underline{\underline{3bx(x - 2a)}}\end{aligned}$$

6)

$$\begin{aligned}4ab + (-2)ab^2 &\Leftrightarrow \\&\underline{\underline{-2a(b - 2)b}}\end{aligned}$$

Opgave 127

Gang følgende parenteser ud:

1)

$$\begin{aligned}(x + y)(a + 2y) &\Leftrightarrow \\ \underline{ax + ay + 2xy + 2y^2}\end{aligned}$$

2)

$$\begin{aligned}(b - a)^2 &\Leftrightarrow \\ (b - a)(b - a) &\Leftrightarrow \\ b^2 - ba - ab + a^2 &\Leftrightarrow \\ \underline{a^2 - 2ab + b^2}\end{aligned}$$

3)

$$\begin{aligned}(-4x + y)(4x + y) &\Leftrightarrow \\ -16x^2 - 4xy + 4xy + y^2 &\Leftrightarrow \\ \underline{-16x^2 + y^2}\end{aligned}$$

4)

$$\begin{aligned}-(a + x)(x + y) &\Leftrightarrow \\ -(ax + ay + x^2 + xy) &\Leftrightarrow \\ \underline{-ax - ay - xy - x^2}\end{aligned}$$

5)

$$\begin{aligned}(3a + 2b)(3a - 2b) &\Leftrightarrow \\ 9a^2 - 6ab + 6ab - 4b^2 &\Leftrightarrow \\ \underline{9a^2 - 4b^2}\end{aligned}$$

6)

$$\begin{aligned}(5 - 4y + 2x)(5 + 3y) &\Leftrightarrow \\ 5(5 - 4y + 2x) + 3y(5 - 4y + 2x) &\Leftrightarrow \\ 25 - 20y + 10x + 15y - 12y^2 + 6xy &\Leftrightarrow \\ \underline{25 + 10x + 6xy - 5y - 12y^2}\end{aligned}$$