

Muistikaavat

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

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

$$(a+b)(a-b) =$$

$$\underline{E1} \quad (5x-2)^2 =$$

$$\underline{E2} \quad (3\sqrt{2} + 2\sqrt{3})^2 =$$

$$\underline{E3} \quad y^2 - 4 =$$

$$\underline{E4} \quad 81x^4 - 16 =$$

$$\underline{E5} \quad \text{jaa tekijöihin}$$

$$2x^2 - 12x + 18$$

$$\underline{E6} \quad x^3 - 2x^2 - x + 2$$

Muistikaavat

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

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

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

$$\underline{E1} \quad (5x-2)^2$$

$$= (5x)^2 - 2 \cdot 5x \cdot 2 + 2^2$$

$$= 25x^2 - 20x + 4$$

$$a = 5x$$

$$b = 2$$

$$\underline{E2} \quad (3\sqrt{2} + 2\sqrt{3})^2$$

$$= (3\sqrt{2})^2 + 2 \cdot 3\sqrt{2} \cdot 2\sqrt{3} + (2\sqrt{3})^2$$

$$= 9 \cdot 2 + 12\sqrt{2}\sqrt{3} + 4 \cdot 3$$

$$= \underline{18} + 12\sqrt{2 \cdot 3} + \underline{12}$$

$$= 30 + 12\sqrt{6}$$

$$= \underline{\underline{6(5 + 2\sqrt{6})}}$$

$$a = 3\sqrt{2}$$

$$b = 2\sqrt{3}$$

$$\underline{E3} \quad y^2 - 4$$

$$= (y+2)(y-2)$$

$$a = y$$

$$b = 2$$

$$\underline{E4} \quad 81x^4 - 16$$

$$= (9x^2 + 4)(9x^2 - 4)$$

$$a = 9x^2$$

$$b = 4$$

E5 Jaa tekijöihin

$$2x^2 - 12x + 18$$

$$= 2(x^2 - 6x + 9)$$

$$= 2(x - 3)^2$$

$$\underline{E6} \quad x^3 - 2x^2 - x + 2$$

ryhmittämällä

$$= x^2(x-2) - (x-2)$$

$$= (x-2)(x^2-1)$$

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

$$\frac{x^3}{x^2} = x$$

$$-\frac{2x}{x^2} = -2$$

$P(x)$ jaollinen
polynomilla $x-a$,

jos $P(a) = 0$

eli jos tekijä on
 $x-a$

\Rightarrow nollakohta on $x=a$