Merkwaardige producten

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

Machten

$x^0 = 1$ $\quad x^a \cdot x^b = x^{a+b}$ $\quad \frac{x^a}{x^b} = x^{a-b}$

$(x^a)^b = x^{ab}$ $\quad \left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$ $\quad (a \cdot b)^n = a^n \cdot b^n$

Machten met gebroken en negatieve exponenten

$x^{\frac{1}{2}} = \sqrt{x}$ $\quad x^{\frac{1}{n}} = \sqrt[n]{x}$ $\quad x^{\frac{m}{n}} = \sqrt[n]{x^m}$ $\quad x^{-n} = \frac{1}{x^n}$ $\quad \mathrm{a}x^{-n} = \frac{a}{x^n}$

Wortels

$\sqrt{A \cdot B} = \sqrt{A} \cdot \sqrt{B}$ $\quad \sqrt{\frac{A}{B}} = \frac{\sqrt{A}}{\sqrt{B}}$ $\quad \sqrt{A^2} = |A|$

Logaritmen

${}^g\log(x) = \mathrm{a} \rightarrow x = g^a$ $\quad g^x = \mathrm{a} \rightarrow x = {}^g\log(a)$

${}^g\log(A) + {}^g\log(B) = {}^g\log(A \cdot B)$ $\quad {}^g\log(A) - {}^g\log(B) = {}^g\log\left(\frac{A}{B}\right)$

${}^g\log(g^a) = \mathrm{a}$ $\quad \mathrm{a} \cdot {}^g\log(x) = {}^g\log(x^a)$

$g^{{}^g\log(x)} = \mathrm{x}$ $\quad {}^g\log(1) = 0$

${}^g\log(x) = \frac{{}^b\log(x)}{{}^b\log(g)}$ $\quad {}^{\frac{1}{g}}\log(x) = -{}^g\log(x)$

$ln(x) = {}^e\log(x)$ $\quad {}^g\log(x) = \frac{ln(x)}{ln(g)}$

$ln(x) = \mathrm{a} \rightarrow x = e^a$ $\quad e^x = \mathrm{a} \rightarrow x = ln(a)$

$ln(A) + ln(B) = ln(A \cdot B)$ $\quad ln(A) - ln(B) = ln\left(\frac{A}{B}\right)$

$ln(e^x) = \mathrm{x}$ $\quad \mathrm{a} \cdot ln(x) = ln(x^a)$

$e^{ln(x)} = \mathrm{x}$ $\quad ln(1) = 0$

Abc-formule

$\mathrm{D} = b^2 - 4\mathrm{ac}$ $\quad \mathrm{x} = \frac{-b \pm \sqrt{D}}{2a}$

Vergelijkingen oplossen

$A^2 = B^2 \rightarrow A = \mathrm{B} \vee \mathrm{A} = -\mathrm{B}$

$\mathrm{A} \cdot B = 0 \rightarrow A = 0 \vee B = 0$

$\mathrm{A} \cdot B = \mathrm{A} \cdot C \rightarrow A = 0 \vee \mathrm{B} = \mathrm{C}$

$\mathrm{A} \cdot B = \mathrm{A} \rightarrow A = 0 \vee \mathrm{B} = 1$

$\frac{A}{B} = \frac{C}{D} \rightarrow A \cdot D = \mathrm{B} \cdot C \wedge B \neq 0 \wedge D \neq 0$

$\frac{A}{B} = \mathrm{C} \rightarrow A = \mathrm{B} \cdot C \wedge B \neq 0$

$\frac{A}{B} = 0 \rightarrow A = 0 \wedge B \neq 0$

$\frac{A}{B} = C \rightarrow \frac{A}{C} = B$

$\frac{A}{B} = \frac{A}{C} \rightarrow (A = 0 \vee B = C) \wedge B \neq 0 \wedge C \neq 0$

$\frac{A}{B} = \frac{C}{B} \rightarrow A = C \wedge B \neq 0$

$|A| = \mathrm{B}$ met $\mathrm{B} \geq 0 \rightarrow A = \mathrm{B} \vee A = -\mathrm{B}$

$g^A = g^B \rightarrow A = B$

$|A| = \mathrm{B}$ met $\mathrm{B} < 0 \rightarrow$ *geen oplossing*

${}^g\log(A) = {}^g\log(B) \rightarrow A = \mathrm{B}$

$|A| = |B| \rightarrow A = \mathrm{B} \vee \mathrm{A} = -\mathrm{B}$

Goniometrie

$sin(-A) = -sin(A)$

$cos(-A) = cos(A)$

$sin^2(A) + cos^2(A) = 1$

$-sin(A) = sin(A + \pi)$

$-\cos(A) = \cos(A + \pi)$

$tan(A) = \frac{sin(A)}{cos(A)}$

$\sin(A) = \cos\left(A - \frac{1}{2}\pi\right)$

$cos(A) = sin\left(A + \frac{1}{2}\pi\right)$

Goniometrie (gegeven op formuleblad examen)

$sin(t+u) = sin(t)cos(u) + cos(t)sin(u)$

$sin(2t) = 2sin(t)cos(t)$

$cos(t+u) = cos(t)cos(u) - sin(t)sin(u)$

$\cos(2t) = \cos^2(t) - \sin^2(t)$

$sin(t-u) = sin(t)cos(u) - cos(t)sin(u)$

$\cos(2t) = 2\cos^2(\mathrm{t}) - 1$

$cos(t-u) = cos(t)cos(u) + sin(t)sin(u)$

$\cos(2t) = 1 - 2\sin^2(\mathrm{t})$