

MAT 91122 Opgave E36

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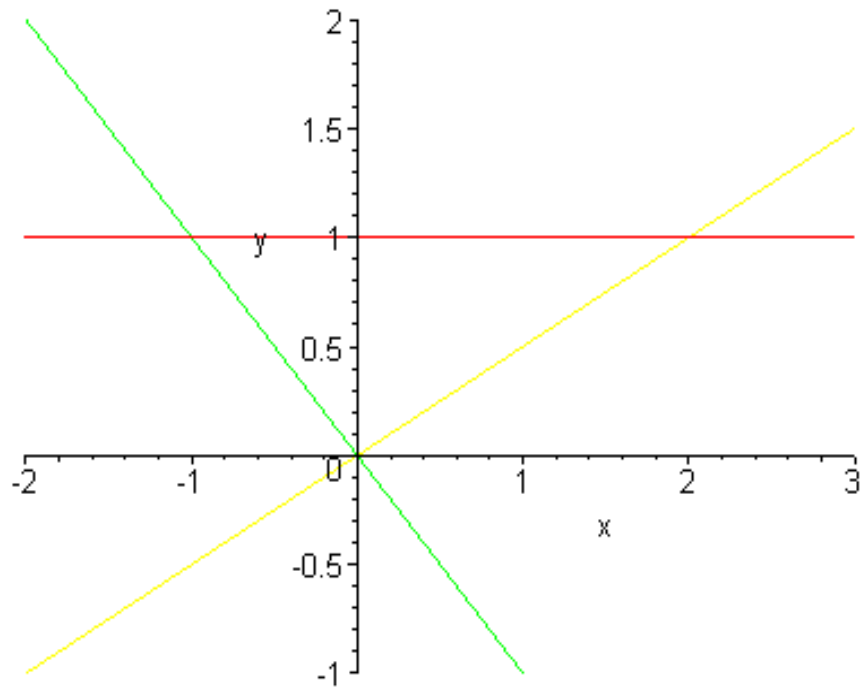
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En trekant S er begrænset af 3 rette linier med ligningerne

$$\begin{aligned}y &= 1 \\x + y &= 0 \\x - 2y &= 0\end{aligned}$$

Vi skal finde planintegralet

$$\int_S 4xy^3 dA$$



Vi finder

$$\begin{aligned}\int_S 4xy^3 dA &= \int_0^1 dy \int_{-y}^{2y} 4xy^3 dx = \int_0^1 [2x^2]_{-y}^{2y} y^3 dy \\ &= \int_0^1 6y^5 dy = [y^6]_0^1 = 1\end{aligned}$$