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$$\Omega = \int \left(\frac{sinh^2 x}{sinh(2x) - 2x} - \frac{x \cdot sinhx}{sinhx - x \cdot coshx} \right) dx$$

Proposed by Daniel Sitaru-Romania

Solution by Igor Soposki-Skopje-Macedonia

$$\Omega = \int \left(\frac{sinh^2 x}{sinh(2x) - 2x} - \frac{x \cdot sinhx}{sinhx - x \cdot coshx} \right) dx = I_1 + I_2$$

$$I_1 = \int \frac{sinh^2 x}{sinh(2x) - 2x} dx = \int \frac{sinh^2 x}{2sinhx \cdot coshx - 2x} dx =$$

$$= \frac{1}{2} \int \frac{sinh^2 x}{sinhx \cdot coshx - x} dx \overset{sinhx \cdot coshx - x = t}{=} \frac{1}{4} \int \frac{dt}{t} = \frac{1}{4} log|sinh(2x) - 2x| + C_1$$

$$I_2 = \int \frac{x \cdot sinhx}{sinhx - x \cdot coshx} dx \overset{sinhx - x \cdot coshx = t}{=} -\int \frac{dt}{t} = -log|sinhx - x \cdot coshx| + C_2$$

$$I = \frac{1}{4} log|sinh(2x) - 2x| - log|sinhx - x \cdot coshx| +$$

Note by editor:
Many thanks to Florică Anastase-Romania for typed solutions.