NEW FORMULA 3.511.5

The original formula is

$$\int_0^\infty \frac{\sinh ax \, \cosh bx}{\sinh cx} \, dx = \frac{\pi}{2c} \frac{\sin \frac{a\pi}{c}}{\cos \frac{a\pi}{c} + \cos \frac{b\pi}{c}}$$

The change of variables $t = cx$ and writing a/c as a and b/c as b (and going back to x as the integration variable) gives the new formula

$$\int_0^\infty \frac{\sinh ax \, \cosh bx}{\sinh x} \, dx = \frac{\pi}{2} \frac{\sin \pi a}{\cos \pi a + \cos \pi b}$$