



16.
$$\int_0^{\infty} \cos(xt)y(t) dt = f(x).$$

Solution:
$$y(x) = \frac{2}{\pi} \int_0^{\infty} \cos(xt)f(t) dt.$$

Up to constant factors, the function $f(x)$ and the solution $y(t)$ are the [Fourier cosine transform](#) pair.

References

- Bateman, H. and Erdélyi, A.**, *Tables of Integral Transforms. Vol. 1*, McGraw-Hill Book Co., New York, 1954.
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Polyanin, A. D. and Manzhirov, A. V., *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.