

8.
$$\int_0^\infty \frac{y(x+t)-y(x-t)}{t} dt = f(x).$$

Solution:
$$y(x) = -\frac{1}{\pi^2} \int_0^\infty \frac{f(x+t) - f(x-t)}{t} dt$$
.

References

Ditkin, V. A. and Prudnikov, A. P., *Integral Transforms and Operational Calculus*, Pergamon Press, New York, 1965. **Polyanin, A. D. and Manzhirov, A. V.,** *Handbook of Integral Equations*, CRC Press, Boca Raton, 1998.

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