17. $\displaystyle\int_0^\infty \sin(xt)y(t)\,dt = f(x).$

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

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

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