Re: Can someone explain this proof, please?

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- *Date*: 18 Aug 2006 00:01:28 −0700

Timothy Murphy wrote:

> I take it that your proof shows that if the solution is written
> f(x) g(x) = C(x),
> then we get the same solution on replacing x by 1/x
> ie (x^n f(1/x)) (x^m g(1/x)) = x^{m+n} C(1/x) = C(x).

An easy way to see that f and g are reciprocal polynomials
is to note that each zero z of f is a root of unity
and so has modulus 1. As f has real coefficients the
conjugate of z which is z^{−1} is also a root. Hence
f is reciprocal.

Victor Meldrew

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