

Proposed solutions FWA Dec '05

1. The Fourier transform is a convolution. Alternatively, use a trigonometric formula first.
2. Use linearity and the shift property. Alternatively, use the definition.
3. The function is radial, so either use the Abel transform or choose a coordinate direction.
4. Take a function in \mathcal{S} which vanishes outside a bounded interval. Then the autocorrelation of this function has the desired properties.