

In class work 5, Spring 2023

You may use your own paper to *neatly* write your answers to these questions. This assignment is due Wednesday 12 April.

1. Evaluate each principle value integral.

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(a) $\int_{-\infty}^{\infty} \frac{1+x^2}{1+x^4} dx$

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(b) $\int_{-\infty}^{\infty} \frac{1+x^2}{1+x^4} e^{iwx} dx$, where $w \in \mathbf{R}_{>0}$.

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(c) $\int_{-\infty}^{\infty} \frac{1+x^2}{1+x^4} e^{iwx} dx$, where $w \in \mathbf{R}_{>0}$.