

Chapter 7, Solution 30.

$$(a) \quad \int_{-\infty}^{\infty} 4t^2 \delta(t-1) dt = 4t^2 \Big|_{t=1} = 4$$

$$(b) \quad \int_{-\infty}^{\infty} 4t^2 \cos(2\pi t) \delta(t-0.5) dt = 4t^2 \cos(2\pi t) \Big|_{t=0.5} = \cos \pi = -1$$