Introduction to Mathematica

#CA1

#Q4

Signals & Systems

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```
In[•]:= X1[t_] = ∫_-Infinity^Infinity (Exp[3 * t] * DiracDelta''[t - 2]) dt
Out[•]= 9 e^6

In[•]:= X2[t_] = ∫_5^10 (Cos[2 * Pi * t] * (DiracDelta[t - 2] + DiracDelta[t - 7])) dt
Out[•]= 1

In[•]:= X3[t_] =
        ∫_-Infinity^Infinity ((Exp[-3 * t] * Cos[(Pi * t) / 2] + (Ramp[(0.5 * t - 1) + 1] - 2 Ramp[(0.5 * t - 1)] +
                Ramp[(0.5 * t - 1) - 1])) * DiracDelta'[t - 0.5]) dt
Out[•]= 0.221166
```