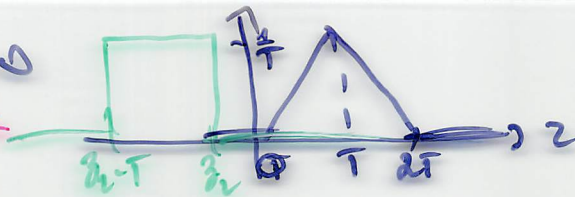


$$\underline{z_3 \leq 0:}$$

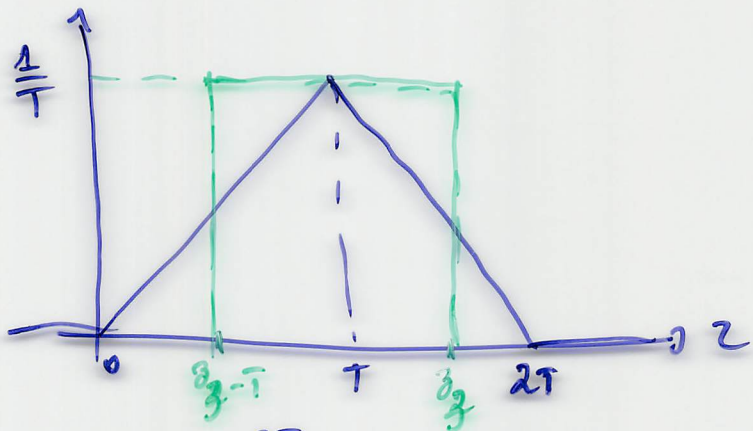
$$\underline{j_{z_3}(z_3) \equiv 0}$$



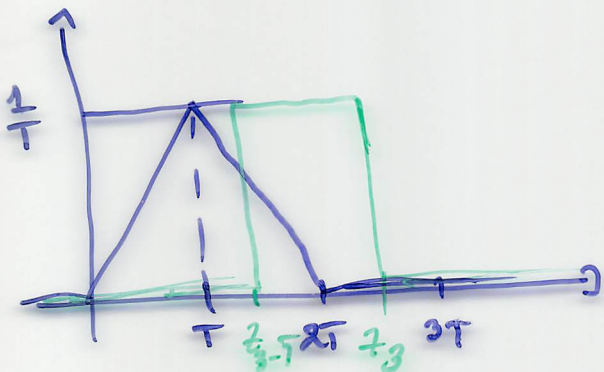
(3)

$$\underline{0 < z_3 \leq T:} \quad j_{z_3}(z_3) = \int_0^{z_3} \frac{z}{T^2} \cdot \frac{1}{T} dz = \left[ \frac{1}{T^3} \frac{z^2}{2} \right]_0^{z_3} = \underline{\underline{\frac{z_3^2}{2T^3}}}$$

$$\begin{aligned} \underline{T \leq z_3 \leq 2T:} \quad j_{z_3}(z_3) &= \int_{z_3-T}^T \frac{z}{T^2} \cdot \frac{1}{T} dz + \int_T^{z_3} \frac{2T-z}{T^2} \cdot \frac{1}{T} dz \\ &= \left[ \frac{1}{T^3} \cdot \frac{z^2}{2} \right]_{z_3-T}^T + \frac{1}{T^3} \left[ 2T \cdot z - \frac{z^2}{2} \right]_T^{z_3} \\ &= \frac{1}{T^3} \left[ \frac{T^2 - (z_3-T)^2}{2} + 2T \cdot z_3 - \frac{z_3^2}{2} - \left( 2T^2 - \frac{T^2}{2} \right) \right] \\ &= \frac{1}{T^3} \left( -T^2 + 2T \cdot z_3 - \frac{z_3^2}{2} - \frac{z_3^2}{2} + z_3 \cdot T - \frac{T^2}{2} \right) \\ &= \underline{\underline{\frac{1}{T^3} \left( -z_3^2 + 3T \cdot z_3 - \frac{3}{2} T^2 \right)}} \end{aligned}$$



$$\underline{2T < z_3 \leq 3T:} \quad j_{z_3}(z_3) = \int_{z_3-T}^{2T} \frac{2T-z}{T^2} \cdot \frac{1}{T} dz$$



$$\begin{aligned} &= \frac{1}{T^3} \left[ 2T \cdot z - \frac{z^2}{2} \right]_{z_3-T}^{2T} \\ &= \frac{1}{T^3} \left[ 4T^2 - 2T^2 - \left( 2T \cdot z_3 - 2T^2 - \frac{z_3^2 - 2T(z_3+T)^2}{2} \right) \right] \\ &= \frac{1}{T^3} \left[ 2T^2 - 2T \cdot z_3 + 2T^2 + \frac{z_3^2}{2} - T \cdot z_3 + \frac{T^2}{2} \right] \end{aligned}$$

$$\underline{\underline{j_{z_3}(z_3) = \frac{1}{T^3} \left( \frac{z_3^2}{2} - 3T \cdot z_3 + \frac{9}{2} T^2 \right)}}$$