

$$\int_0^{\tau} \frac{\left\{ \int_t^{\tau} s(u) du \right\}^2 h(t) dt}{s(t)}$$

$$= \left[\int \frac{h(t)}{s(t)} dt \times \left\{ \int_t^{\tau} s(u) du \right\}^2 \right]_0^{\tau} + 2 \int_0^{\tau} \int \frac{h(t)}{s(t)} dt \left[s(t) \int_t^{\tau} s(u) du \right] d$$

?

$$= 2 \int_0^{\tau} t s(t) dt - \left[\int_0^{\tau} s(t) dt \right]^2$$