Using Step Functions as Switches

Quiz: What is the equation for the function which agrees with $f(t)$ between $a$ and $b$ (assume $a < b$) and is zero outside this window?

Choices:

a) $(u(t - b) - u(t - a))f(t)$

b) $(u(t - a) - u(t - b))f(t - a)$

c) $(u(t - a) - u(t - b))f(t)$

d) $u(t - a)f(t - a) - u(t - b)f(t - b)$

e) none of these

Pick what you think is the correct choice and then look at the answer.