Subject: Session 32

Year. Month. Date. ( )

1 $dw = w_x dx + w_y dy + w_z dz$

$= z e^{(x+y)} dx + z e^{(x+y)} dy + e^{(x+y)} dz$

$\Leftrightarrow dw\big|_{(0,0,1)} = dx + dy + dz$

2 $w = t^3 e^{(t+t^2)}$

$\Leftrightarrow \frac{dw}{dt} = 3t^2 e^{(t+t^2)} + t^3 e^{(t+t^2)} (2t+1)$

$\Leftrightarrow \frac{dw}{dt}\big|_2 = 3 \cdot 4 \cdot e^6 + 8 \cdot e^6 \cdot 5$

$= 52 e^6$