

## Subject: Session 60

Year. Month. Date. ( )

Date written:

1. a)  $F = \nabla f = \langle x+e^x, y \rangle$

b. i)  $\int_C F \cdot dr = \int_0^2 e^x dx + \int_0^2 dy = e^2 + 1$

c) ii)  $\int_C F \cdot dr = \int_0^1 0 dy + \int_0^2 1+e^x dx = e^2 + 1$

iii)  $\int_C F \cdot dr = \int_0^1 (t+e^{2t}) 2 dt + 2t = 1+e^2$

c)  $f(2,1) - f(0,0) = 1+e^2$

## Subject: Session 6a (contd...)

Year: \_\_\_\_\_ Month: \_\_\_\_\_ Date: ( )

1.  $0 + \int_0^1 -y \, dy + 1 \, dy = 1$

$\cancel{y=1}$   
2.  $\int_{x=0}^1 -1 \, dx + 1 \, dy = -1$

3. No. Not Conservative.

4.  $\int_0^{2\pi} \sin^2 \theta + \cos^2 \theta \, d\theta = 2\pi$

5. No. Not Conservative.

6.  $\int_{z=0}^{2\pi} \circ \, dz + \circ \, dy + \int_{y=0}^{2\pi} \circ \, dz + 1 \, dy = 0$

7.  $\int_{y=0}^{2\pi} \circ \, dz + \circ \, dy + \int_{z=0}^{2\pi} \circ \, dz + \circ \, dy = 0$

8.  $\int_0^1 0 + t \, dt = \frac{1}{2}$

9. No. If it were then Part 3, p. 178 would be =.