LINE INTEGRALS

1. Evaluate $\int_C xy\,ds$ where C is the unit circle traversed once in the counterclockwise direction.

2. Evaluate $\int_C xy\,dx$ where C is the unit circle traversed once in the counterclockwise direction.

3. Evaluate $\int_C xy\,dy$ where C is the unit circle traversed once in the counterclockwise direction.

4. Evaluate $\int_C xy\,ds$ where C is the straight line from $(0,0)$ to $(2,4)$.

5. Evaluate $\int_C xy\,dx$ where C is the straight line from $(0,0)$ to $(2,4)$.

6. Evaluate $\int_C xy\,dy$ where C is the straight line from $(0,0)$ to $(2,4)$.

7. Evaluate $\int_C x\,ds$ where C is the curve $y = x^2$ where $0 \le x \le 1$.

8. Evaluate $\int_C x\,dx$ where C is the curve $y = x^2$ where $0 \le x \le 1$.

9. Evaluate $\int_C x\,dy$ where C is the curve $y = x^2$ where $0 \le x \le 1$.