

Some Contour Integrals

$$\int_C x + y^2 ds \text{ where } C \text{ is a line segment given by } r(t) = \langle 3t, 4t \rangle, 0 \leq t \leq 1$$

$$\int_C F \cdot dr \text{ where } F(x, y) = \langle 2xy^3 - 2xy + 1, 3x^2y^2 - x^2 \rangle \text{ and } C \text{ is the lower half of the unit circle, from } (-1, 0) \text{ to } (1, 0).$$

$$\oint_C (xy^2 + e^y)dx + (x^2y + xe^y)dy, C = \text{unit circle}$$

$$\oint_C (e^y - x^2y)dx + (xy^2 + xe^y)dy, C = \text{unit circle}$$

$$\int_{(-1,0)}^{(0,1)} (3x^2 + 2y)dx + (2x - 2y)dy$$

$$\int_C 3x^2 - 7yx ds, C \text{ line from } (0,1) \text{ to } (2,3)$$

$$\int_C \langle y, z, x \rangle d\vec{r}, C \text{ line from } (1,1,1) \text{ to } (2,3,4)$$

$$\oint \langle y, z, x \rangle d\vec{r}, C \text{ circle in } yz \text{ plane at } x = 3$$