

Each problem is worth 0 points. In the event of an actual quiz, you would have received warning.

1. Let  $\mathbf{F}(x, y, z) = -y \mathbf{i} + x \mathbf{j} + a z \mathbf{k}$  for some constant  $a$ . Evaluate  $\int_C \mathbf{F} \cdot d\mathbf{r}$ , where  $C$  is a counterclockwise (when viewed from above) circle of radius 2 centered on the  $z$ -axis in the plane  $z = 5$ .