For the picture below find:
A The equation of the vector field $\vec{F}$.
BC The parameteric equation of the curve $C$ in red.
D Is the $\int_C \vec{F} \cdot d\vec{r}$ positive, negative or zero?

Answers
A $\vec{F} = \langle 0, -x \rangle$
BC Let $P(2, 2), Q(1, 0)$, so $\vec{PQ} = \langle -1, -2 \rangle$ and hence we get $x = 2 - t$, $y = 2 - 2t$, $0 \leq t \leq 1$
D Positive