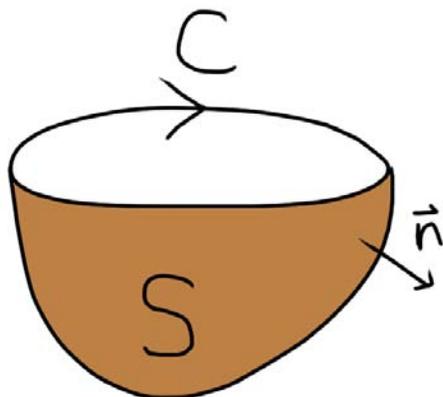


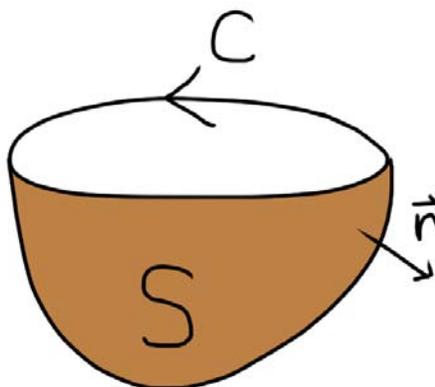
Problems: Stokes' Theorem

1. Let $\mathbf{F} = x^2\mathbf{i} + x\mathbf{j} + z^2\mathbf{k}$ and let S be the graph of $z = x^3 + xy^2 + y^4$ over the unit disk. Use Stokes' Theorem to compute $\oint_C \mathbf{F} \cdot d\mathbf{r}$, where C is the boundary of S .

2. Which of the figures below shows a compatibly oriented surface and curve?



(a)



(b)

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18.02SC Multivariable Calculus
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