Name:	
J#:	
Date: **2017 July 24**	

Exercise Type: **Quiz**

Standard: This student is able to...	Mark:
C12: FundThmLine. Apply the Fundamental Theorem of Line Integrals.	
4/4 ⋆ reattempt due on:	

Find $\int_C \langle 2x, z, y \rangle \cdot d\mathbf{r}$ where C is the curve parametrized by $\mathbf{r}(t) = \left\langle \sqrt{8t}, 2^t, t^2 - 2t + 1 \right\rangle$ for $0 \leq t \leq 2$.

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Exercise Type:

Quiz

Standard: This student is able to...	Mark:
S09: ParamSurf. Parametrize surfaces in three-dimensional Euclidean space.	
3/3 ⋆ reattempt due on:	

Parameterize the plane $x + 2y + 3z = 6$.

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Exercise Type:

Quiz

Standard: This student is able to...	Mark:
S10: SurfInt. Compute and apply surface integrals.	
2/3 ⋆ reattempt due on:	

The function $\mathbf{r}(\theta, z) = \langle \cos\theta, \sin\theta, z\rangle$ parametrizes the cylinder $x^2+y^2=1$. Let $\mathbf{F} = \langle y, z, x\rangle$ and let S be the portion of the cylinder $x^2+y^2=1$ where $0 \leq z \leq 2$ and $y \geq 0$. Express the flux $\iint_S \mathbf{F}\cdot\mathbf{n}\,d\sigma$ as a double iterated integral of θ and z. (Do not solve this integral.)

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Exercise Type:

Quiz

Standard: This student is able to...	Mark:
S11: GreenStokes. Apply Green's Theorem and Stokes's Theorem. ⋆ reattempt due on:	

Green's Theorem states that if the boundary ∂R of a 2D region R is oriented counter-clockwise, then circulation may be computed as $\int_{\partial R} \mathbf{F} \cdot d\mathbf{r} = \iint_R \operatorname{curl} \mathbf{F} \cdot \mathbf{k}\, dA$.
Let C be the closed loop consisting of the line segments connecting $\langle 0, 0\rangle$ to $\langle 2, 0\rangle$ to $\langle 2, 2\rangle$ back to $\langle 0, 0\rangle$. Rewrite $\int_C \langle xy, 3y^2\rangle \cdot d\mathbf{r}$ as a double iterated integral. (Do not solve this integral.)

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Exercise Type:

Quiz

Standard: This student is able to...	Mark:
S12: DivThm. Apply the Divergence Theorem.	
⋆ reattempt due on:	

The Divergence Theorem states that if ∂R is the boundary of a 2D region R, then flux may be computed as $\int_{\partial R} \mathbf{F} \cdot \mathbf{n}\, ds = \iint_R \operatorname{div} \mathbf{F}\, dA$.
Let C be the closed loop consisting of the line segments connecting $\langle 0, 0\rangle$ to $\langle 2, 0\rangle$ to $\langle 2, 2\rangle$ back to $\langle 0, 0\rangle$. Rewrite $\int_C \langle xy, 3y^2\rangle \cdot \mathbf{n}\, ds$ as a double iterated integral. (Do not solve this integral.)