

dougsweetser ~ <u>Help</u>

Course

<u>Progress</u>

<u>Dates</u>

**Discussion** 

<u>Wiki</u>

☆ Course / 2. Cauchy theorem. Types of singularities. Laurent and Taylor series. / Exercises

< Previous	<b>Z</b> ~		<b>Z</b> ~	ď	<b>E</b>			Next >
		_	_	_	_	_	_	

## Problem 2.6

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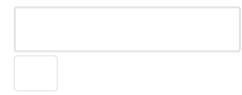
## Problem 2.6

3 points possible (ungraded)

Compute the following integrals along contour C -- unit circle centered at z=0. Use pi for  $\pi$  and i for imaginary unity

(1)

$$\int_C rac{ze^z}{ an z^2} dz$$



(2)

$$\int_C e^{-1/z} \sin\left(rac{1}{z}
ight) dz$$



(3)

$$\int_C \frac{e^z}{z^n} dz \quad \text{(for natural } n) = \frac{1}{\left(\begin{array}{c} 1 \\ 1 \\ 1 \end{array}\right)!}$$

	2	$2\pi i$	$\pi i$	n	n-1		
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You have used 0 of 6 attempts