

Name:  
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MAC 2313.3118  
Cyr

Quiz 12

You must show all work to receive full credit!!

**Problem 1.** (5 pts) Compute  $\int_{\mathcal{C}} f ds$  where  $f(x, y, z) = 3x - 2y + z$  and  $\mathcal{C}$  has parametrization  $\mathbf{c}(t) = (2 + t, 2 - t, 2t)$  for  $-2 \leq t \leq 1$ .

**Problem 2.** (5 pts) Compute  $\int_{\mathcal{C}} \mathbf{F} ds$  where  $\mathbf{F} = \left\langle \frac{1}{y^3 + 1}, \frac{1}{z + 1}, 1 \right\rangle$  and  $\mathcal{C}$  is the oriented curve with parametrization  $\mathbf{c}(t) = (t^3, 2, t^2)$  for  $0 \leq t \leq 1$ .