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1. (1 point)

(1) Set up an integral for finding the Laplace transform of $f(t) = 1$. (Don'd forget any dt terms.)

$$F(s) = \mathcal{L}\{f(t)\} = \int_A^B \underline{\hspace{1.5cm}} \text{ help (formulas)}$$

where $A = \underline{\hspace{0.5cm}}$ and $B = \underline{\hspace{0.5cm}}$. (Note: use the word INFINITY for ∞.)

(2) Find the antiderivative (with constant term 0) corresponding to the previous part.

$$\underline{\hspace{2cm}}$$

(3) Evaluate appropriate limits to compute the Laplace transform of $f(t)$:

$$F(s) = \mathcal{L}\{f(t)\} = \underline{\hspace{2cm}}$$

(4) Where does the Laplace transform you found exist? In other words, what is the domain of $F(s)$?

$$\underline{\hspace{2cm}} \text{ help (inequalities)}$$

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2. (1 point)
Use the definition of the Laplace transform to find $F(s) = \mathcal{L}\{f(t)\}$ for the function $f(t) = e^{3t+8}$, for $s > 3$.

$$F(s) = \mathcal{L}\{f(t)\} = \underline{\hspace{4cm}} \text{ help (formulas)}$$