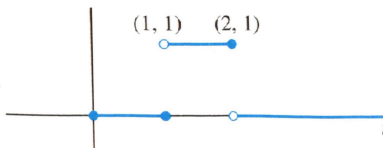


# 10.1 Exercises

**Problem 1** Apply the definition  $F(s) = \mathcal{L}\{f(t)\} = \int_0^{\infty} e^{-st}f(t)dt$  to find directly the Laplace transform of the following graph:  $f(t) =$



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**Problem 2** Use the common transforms to find the transform of  $f(t) = t^{\frac{3}{2}} - e^{-10t}$ .



**Problem 3** Find the inverse Laplace transform of the function  $\frac{9+s}{4+s^2}$ .