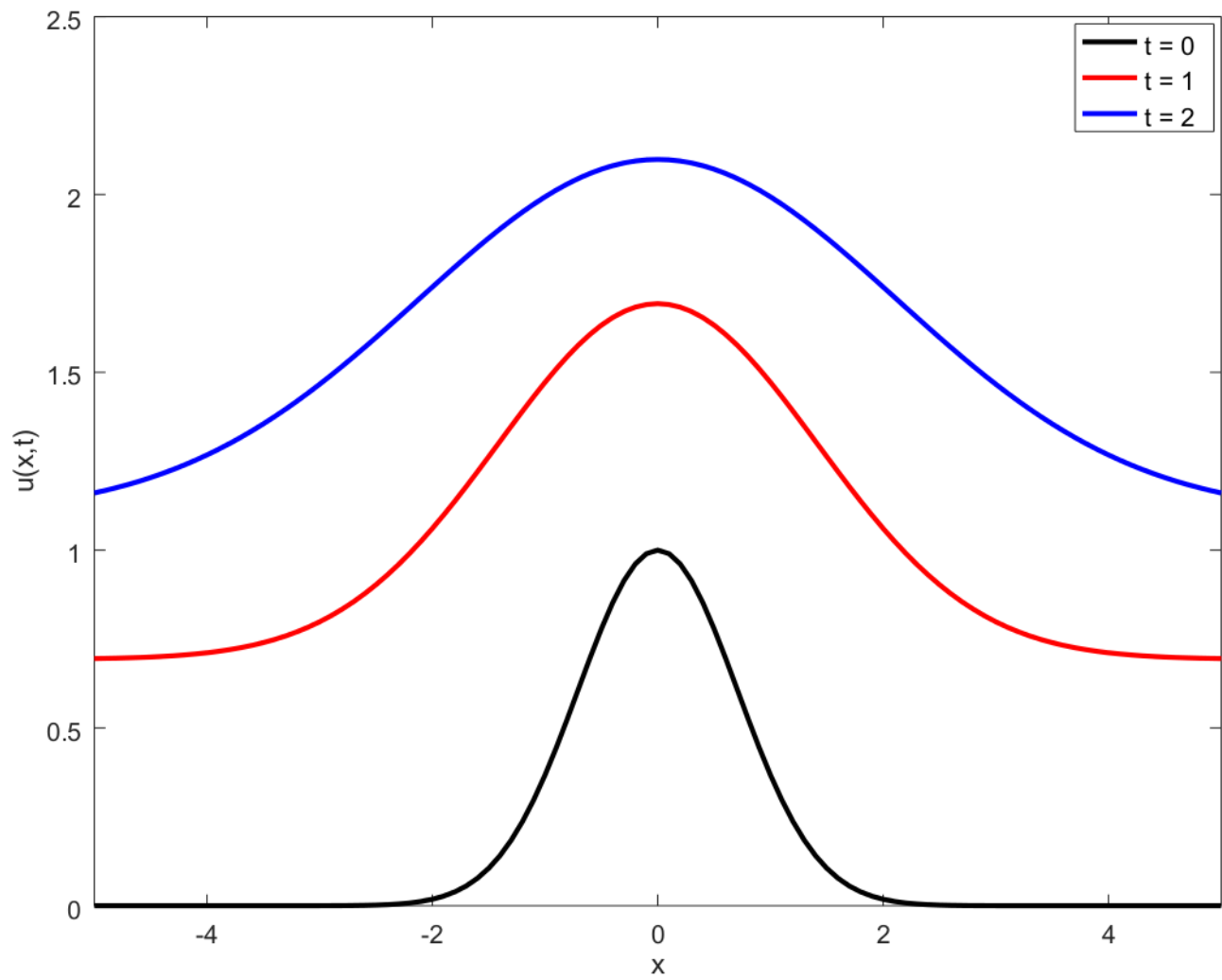


Prob 1

$$u(x, t) = \exp\left(-\left(\frac{x}{1+t}\right)^2\right) + \ln(1+t)$$

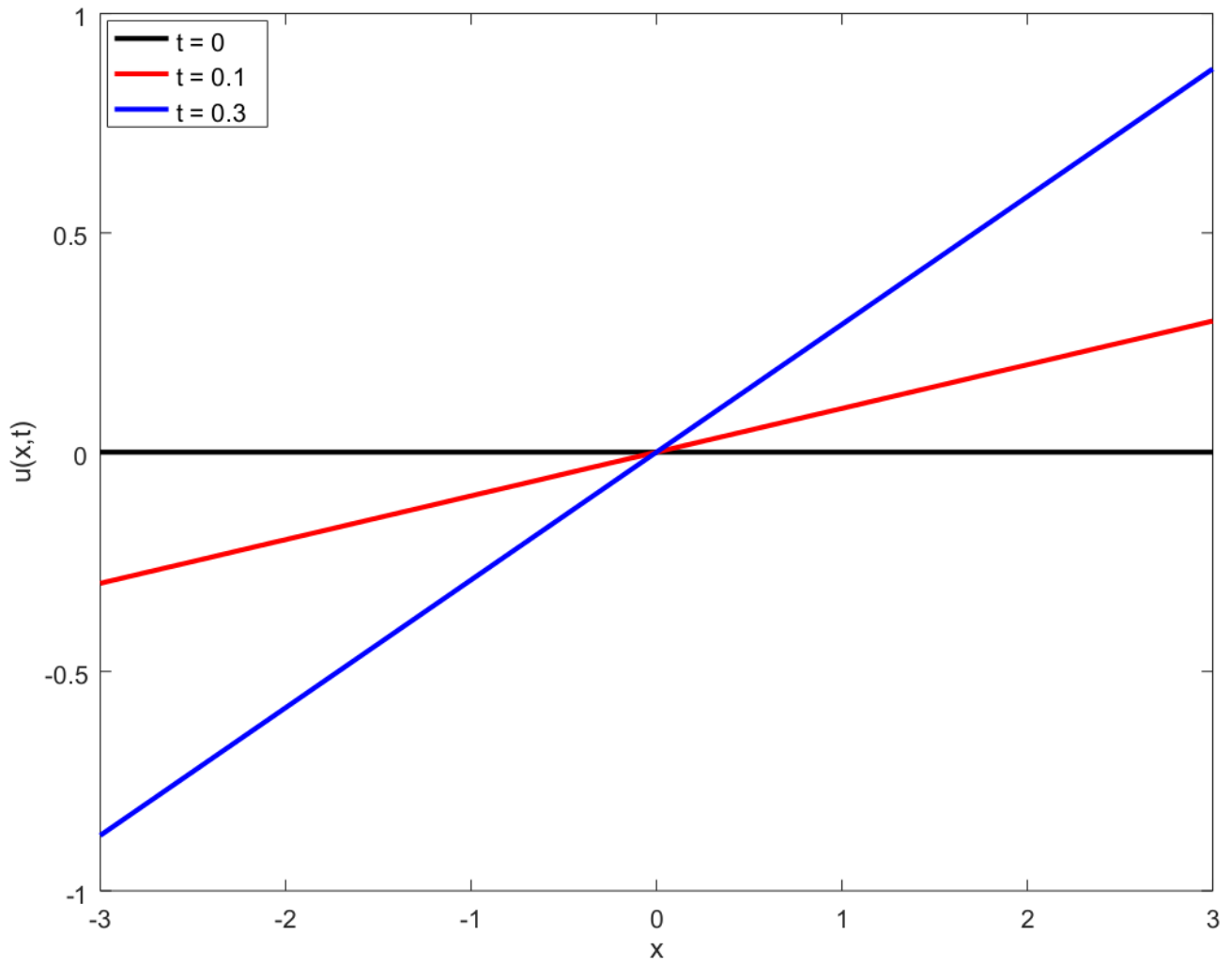
Plot:



Prob 2

$$u(x, t) = x \tanh(t)$$

Plot:



Prob 3

$$\begin{aligned} u(x, t) &= 0 && , \text{ if } x < t \\ &= x - t && , \text{ if } t \leq x \leq t + e^{-t} \\ &= e^{-t} && , \text{ if } x > t + e^{-t} \end{aligned}$$

Plot:

