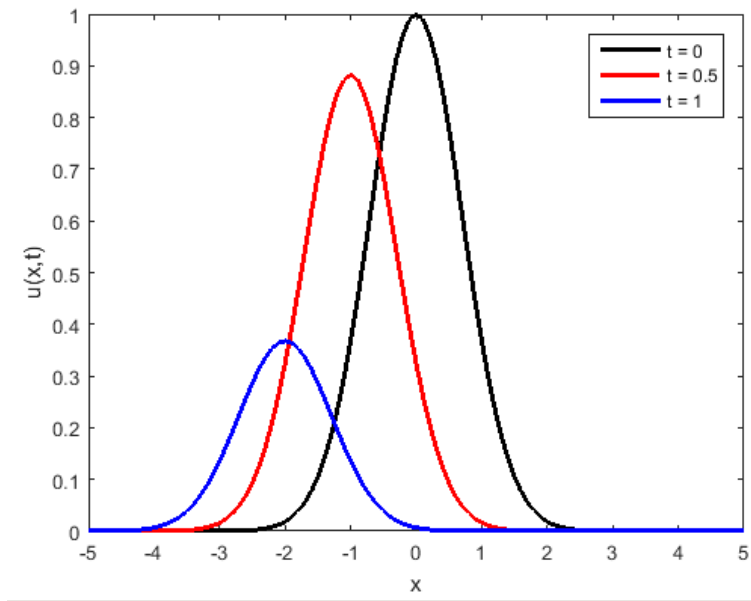


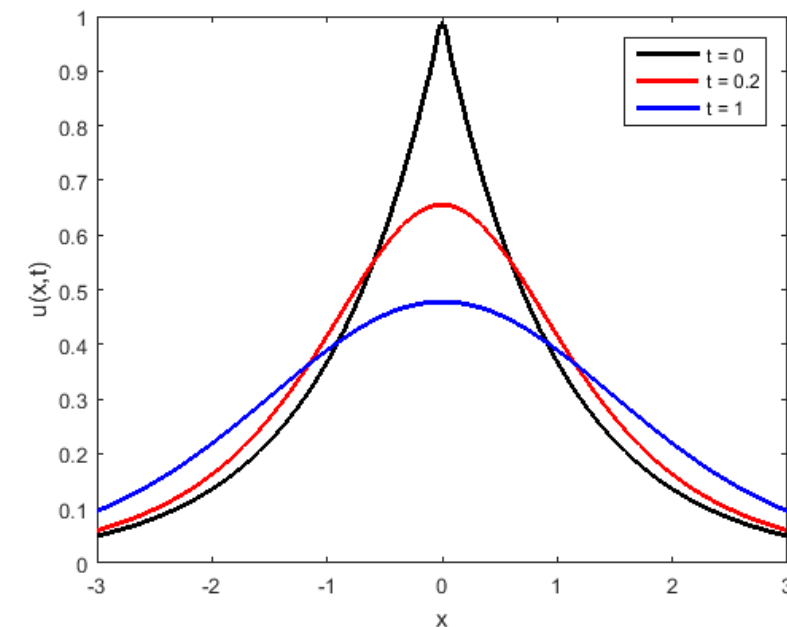
Prob 1

$$u(x, t) = \exp[-(x + 2t)^2 - t^3]$$



Prob 2

$$u(x, t) = \frac{2}{\pi} \int_0^{\infty} \frac{(1+t)^{-\omega^2}}{1+\omega^2} \cos(\omega x) d\omega$$



Prob 3

$$u(x, t) = (t+3) e^{-\frac{t^2}{2}} + \left\{ 2 + \frac{1}{\pi^2} [e^{\pi^2 t} - 1] \right\} e^{-\left(\frac{t^2}{2} + \pi^2 t\right)} \cos(\pi x)$$

Prob 4

$$u(x, t) = \frac{t^3}{3} + \frac{1}{8} [1 - \cos(\sqrt{8t})] \cos(x) + (t-1 + e^{-t}) \sin(3x)$$