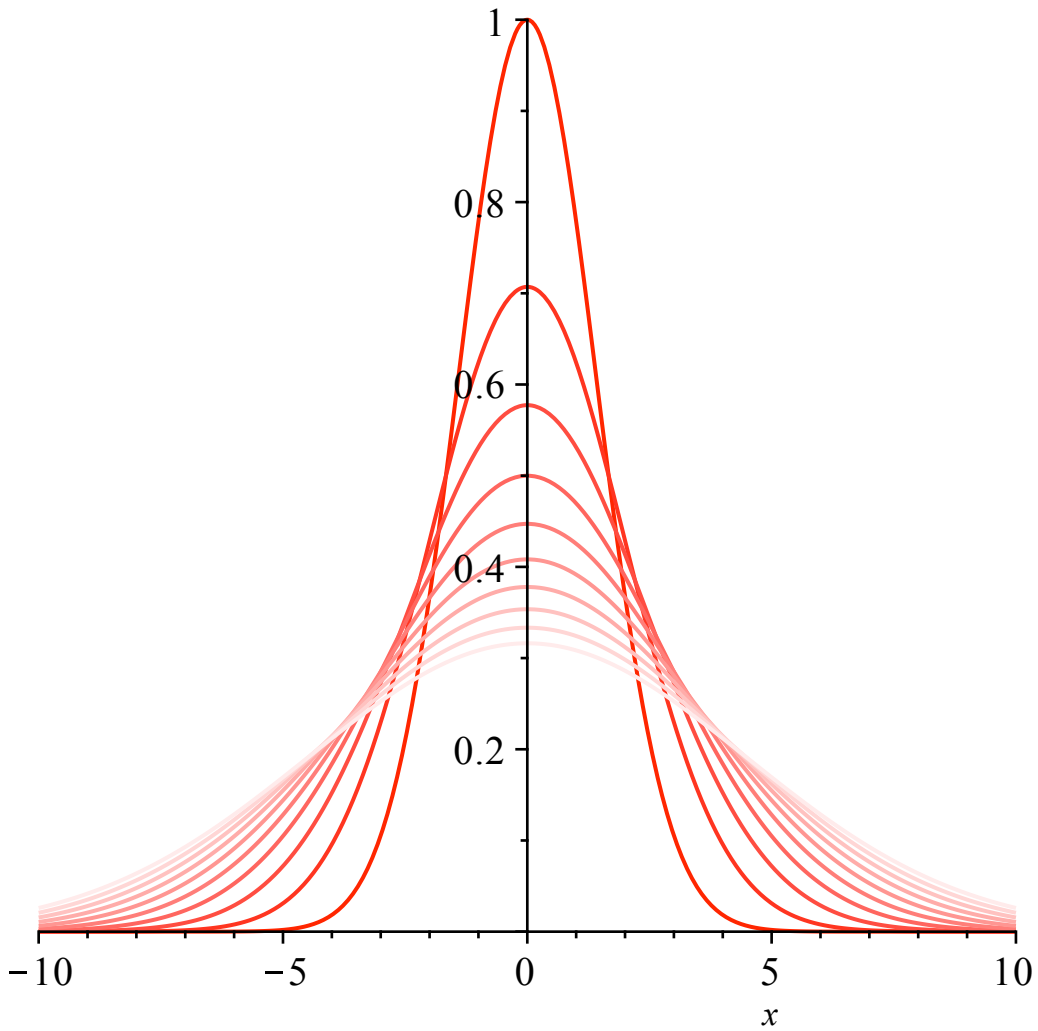
```
> restart: with(plots): with(ColorTools):
> diff(f(x,t), t) - diff(f(x,t), x$2) = 0; #collect(%,t); factor(%);
```

$$\frac{\partial}{\partial t} f(x, t) - \left(\frac{\partial^2}{\partial x^2} f(x, t) \right) = 0 \tag{1}$$

```
> f := (x,t) -> 1/sqrt(t)*exp(-x^2/t/4);
```

$$f := (x, t) \mapsto \frac{e^{-\frac{x^2}{4\,t}}}{\sqrt{t}} \tag{2}$$

```
> #animate(1/sqrt(t)*exp(-x^2/t/4), x=-10..10, t=0..100);
> plot([1/sqrt(t)*exp(-x^2/t/4) $ t=1..10], x=-10..10, color=['Color(
  [1,t/10,t/10])' $ t=0..9]);
```




```
> assume(t>0): int(exp(-x^2/(4*t))/sqrt(t), x=-infinity.. infinity);
```

$$2\sqrt{\pi} \tag{3}$$