

$t := 't'; s := 's';$

$f := \text{Heaviside}(t - s + 0.5) - \text{Heaviside}(t - s - 0.5) :$

$g := \text{Heaviside}(s + 0.5) - \text{Heaviside}(s - 0.5) :$

$g1 := g : sg := \frac{1.}{12} : c1 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g1, s = -6..6); sg;$

0.083333333333

0.083333333333

$g := \text{int}(g1 \cdot f, s = -\infty.. \infty) :$

$t := s : g2 := g : t := 't': sg := \frac{2.}{12} : c2 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g2, s = -6..6); sg;$

0.16666666667

0.16666666667

$g := \text{int}(g2 \cdot f, s = -\infty.. \infty) :$

$t := s : g3 := g : t := 't': sg := \frac{3.}{12} : c3 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g3, s = -6..6); sg;$

0.2500000000

0.2500000000

$g := \text{int}(g3 \cdot f, s = -\infty.. \infty) :$

$t := s : g4 := g : t := 't': sg := \frac{4.}{12} : c4 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g4, s = -6..6); sg;$

0.33333333331

0.33333333333

$g := \text{int}(g4 \cdot f, s = -\infty.. \infty) :$

$t := s : g5 := g : t := 't': sg := \frac{5.}{12} : c5 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g5, s = -6..6); sg;$

0.41666666687

0.41666666667

$g := \text{int}(g5 \cdot f, s = -\infty.. \infty) :$

$t := s : g6 := g : t := 't': sg := \frac{6.}{12} : c6 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g6, s = -6..6); sg;$

0.5000000154

0.5000000000

$g := \text{int}(g6 \cdot f, s = -\infty.. \infty) :$

$t := s : g7 := g : t := 't': sg := \frac{7.}{12} : c7 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g7, s = -6..6); sg;$

0.5833333787

(1)

(2)

(3)

(4)

(5)

(6)

$$0.5833333333 \tag{7}$$

$$g := \text{int}(g7 \cdot f, s = -\infty .. \infty) :$$

$$t := s : g8 := g : t := 't' : sg := \frac{8.}{12} : c8 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g8, s = -6 .. 6); sg;$$

$$0.6666668319$$

$$0.6666666667 \tag{8}$$

$$g := \text{int}(g8 \cdot f, s = -\infty .. \infty) :$$

$$t := s : g9 := g : t := 't' : sg := \frac{9.}{12} : c9 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g9, s = -6 .. 6); sg;$$

$$0.7500000452$$

$$0.7500000000 \tag{9}$$

$$g := \text{int}(g9 \cdot f, s = -\infty .. \infty) :$$

$$t := s : g10 := g : t := 't' : sg := \frac{10.}{12} : c10 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g10, s = -6 .. 6); sg;$$

$$0.8333324368$$

$$0.8333333333 \tag{10}$$

$$g := \text{int}(g10 \cdot f, s = -\infty .. \infty) :$$

$$t := s : g11 := g : t := 't' : sg := \frac{11.}{12} : c11 := \frac{\exp\left(-\frac{s \cdot 2}{2 \cdot sg}\right)}{\text{sqrt}(2 \cdot \pi \cdot sg)} : \text{int}(s \cdot 2 \cdot g11, s = -6 .. 6); sg;$$

$$0.9166621677$$

$$0.9166666667 \tag{11}$$

$$g12 := \text{int}(g11 \cdot f, s = -\infty .. \infty) : \text{int}(t \cdot 2 \cdot g12, t = -6 .. 6); \frac{12}{(12.)};$$

$$1.000002551$$

$$1.000000000 \tag{12}$$

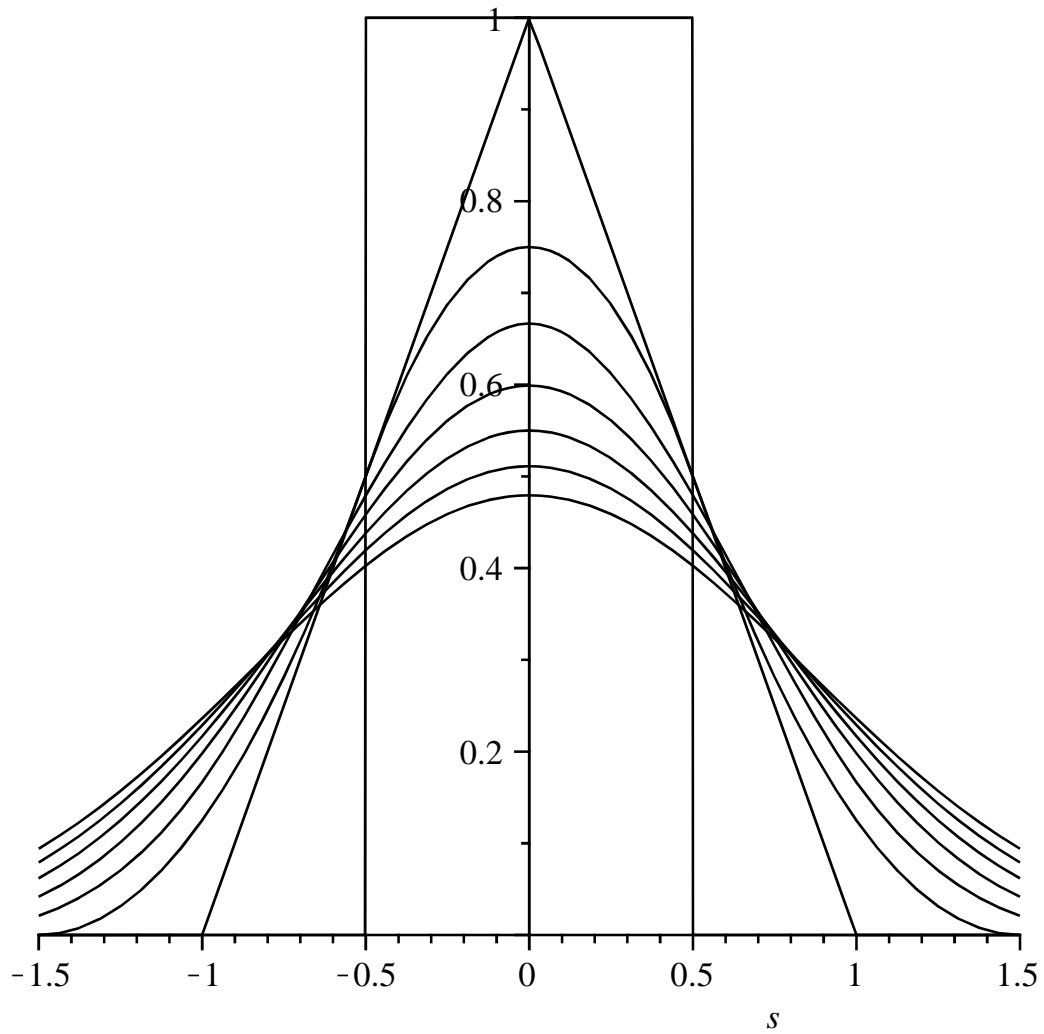
$$\text{gauss} := \frac{\exp\left(-\frac{(t-0.0) \cdot 2}{2}\right)}{\text{evalf}(\text{sqrt}(2 \cdot \pi))};$$

$$0.3989422805 e^{-0.5000000000 t^2}$$

$$\tag{13}$$

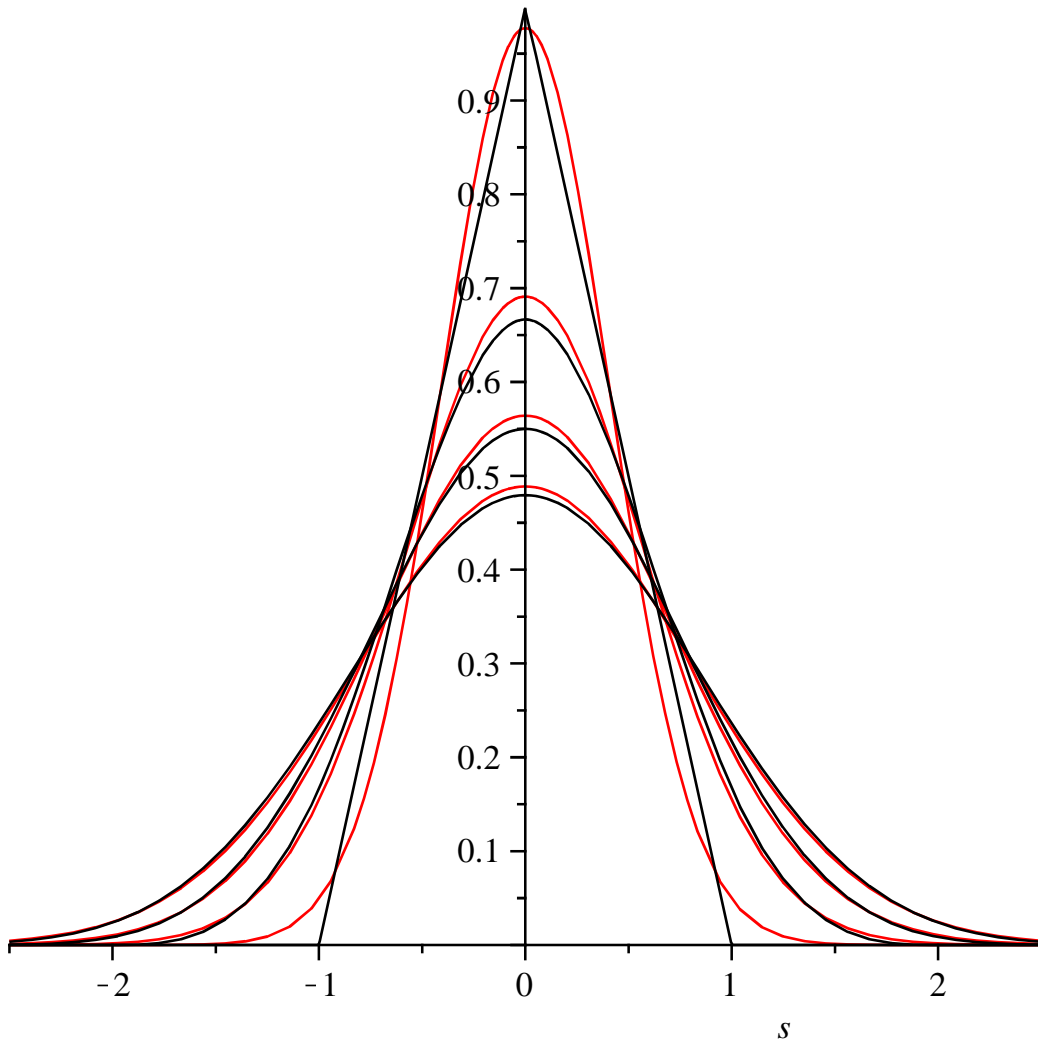
$$\text{setcolors}(["Black", "Black", "Black", "Black", "Black", "Black", "Black", "Black"]); \text{plot}(\{g1, g2, g3, g4, g5, g6, g7, g8\}, s = -1.5 .. 1.5);$$

$$["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]$$

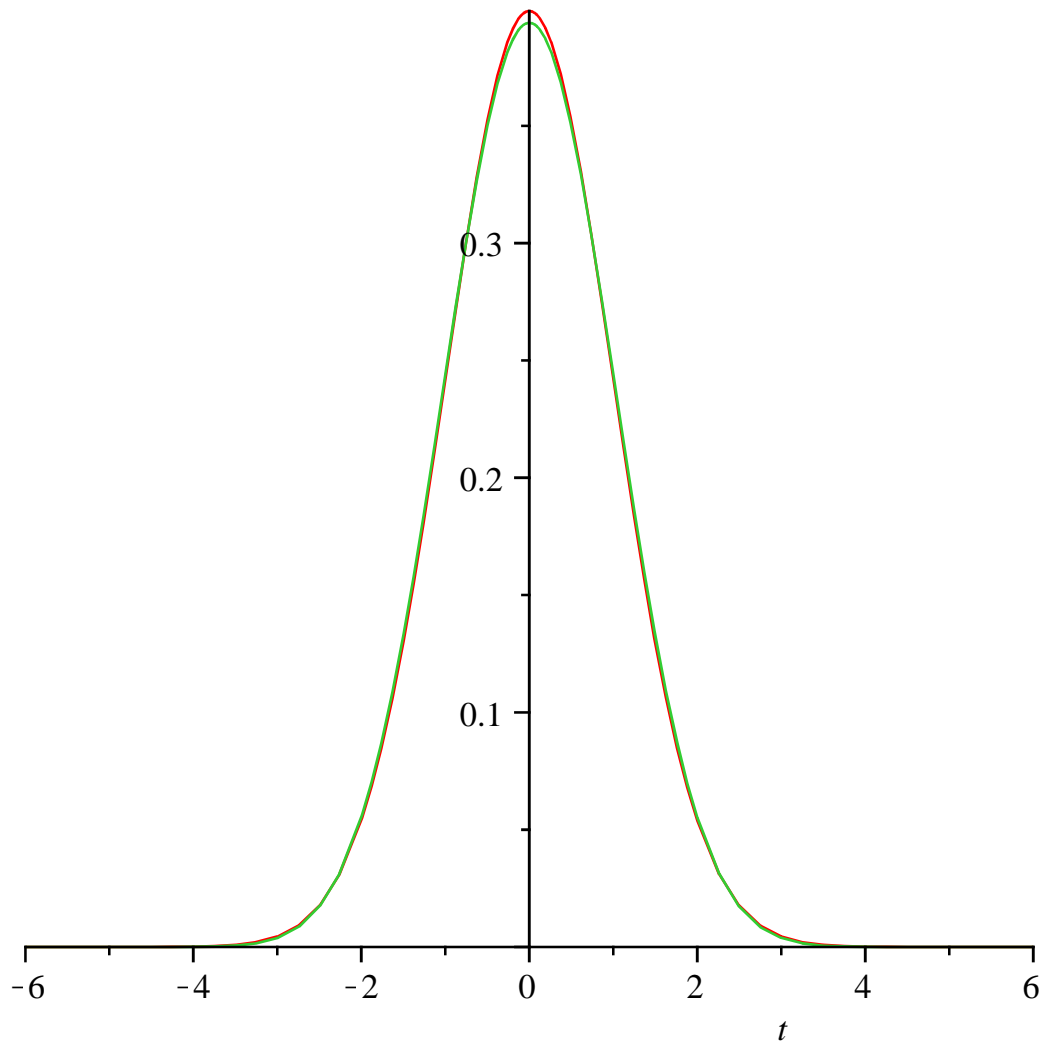


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```
setcolors(["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]); plot( {g2, g4, g6, g8, c2,
c4, c6, c8}, s=-2.5..2.5)
["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]
```



```
; setcolors(default); plot( {g12, gauss}, t=-6..6);  
["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]
```



*with(plots);*

*[animate, animate3d, animatecurve, arrow, changecoords, complexplot, complexplot3d, conformal, conformal3d, contourplot, contourplot3d, coordplot, coordplot3d, densityplot, display, dualaxisplot, fieldplot, fieldplot3d, gradplot, gradplot3d, graphplot3d, implicitplot, implicitplot3d, inequal, interactive, interactiveparams, intersectplot, listcontplot, listcontplot3d, listdensityplot, listplot, listplot3d, loglogplot, logplot, matrixplot, multiple, odeplot, pareto, plotcompare, pointplot, pointplot3d, polarplot, polygonplot, polygonplot3d, polyhedra\_supported, polyhedraplot, rootlocus, semilogplot, setcolors, setoptions, setoptions3d, spacecurve, sparsematrixplot, surfdata, textplot, textplot3d, tubeplot]*

*logplot({gauss, g12}, t=-6..6);*

**(14)**

