

$$p := \frac{a \cdot x \cdot \exp(-a)}{x!};$$

$$\frac{a^x e^{-a}}{x!} \quad (1)$$

$$pg := \frac{\exp\left(-\frac{(x-a) \cdot 2}{2 \cdot a}\right)}{\text{sqrt}(2 \cdot \pi \cdot a)};$$

$$\frac{1}{2} \frac{e^{-\frac{1}{2} \frac{(x-a)^2}{a}} \sqrt{2}}{\sqrt{\pi a}} \quad (2)$$

$$a := 5;$$

$$5 \quad (3)$$

$$p5 := p; pg5 := pg;$$

$$\frac{5^x e^{-5}}{x!}$$

$$\frac{1}{10} \frac{e^{-\frac{1}{10} (x-5)^2} \sqrt{2} \sqrt{5}}{\sqrt{\pi}} \quad (4)$$

$$a := 1;$$

$$1 \quad (5)$$

$$p1 := p; pg1 := pg;$$

$$\frac{e^{-1}}{x!}$$

$$\frac{1}{2} \frac{e^{-\frac{1}{2} (x-1)^2} \sqrt{2}}{\sqrt{\pi}} \quad (6)$$

$$a := 10;$$

$$10 \quad (7)$$

$$p10 := p; pg10 := pg;$$

$$\frac{10^x e^{-10}}{x!}$$

$$\frac{1}{20} \frac{e^{-\frac{1}{20} (x-10)^2} \sqrt{2} \sqrt{10}}{\sqrt{\pi}} \quad (8)$$

$$a := 20;$$

$$20 \quad (9)$$

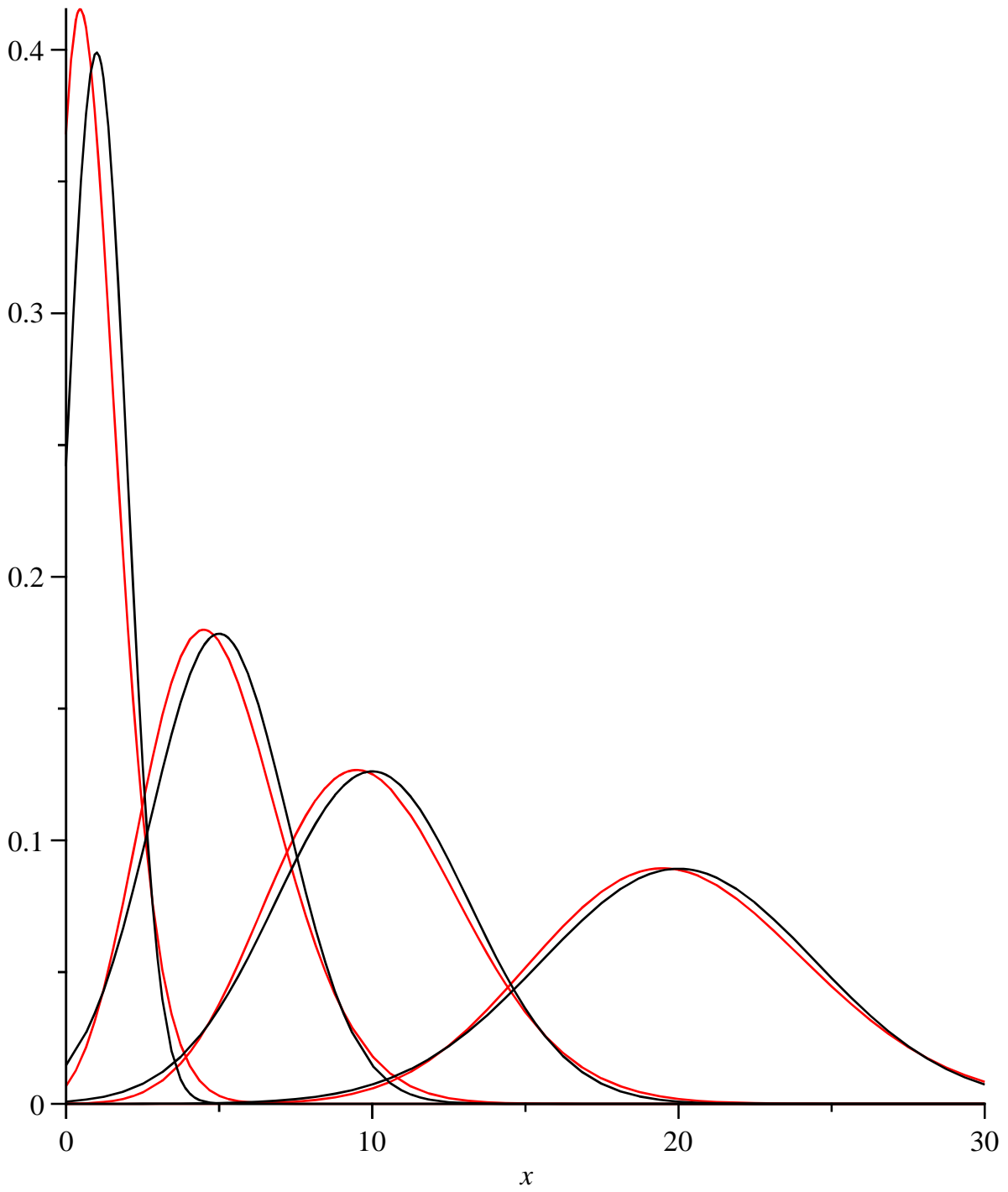
$$p20 := p; pg20 := pg;$$

$$\frac{20^x e^{-20}}{x!}$$

$$\frac{1}{40} \frac{e^{-\frac{1}{40}(x-20)^2} \sqrt{2} \sqrt{20}}{\sqrt{\pi}} \quad (10)$$

with(plots); *setcolors*(["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]); *plot*({pg1, p1, pg5, p5, pg10, p10, pg20, p20}, x=0..30);

[*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*]
 ["Red", "LimeGreen", "Goldenrod", "Blue", "MediumOrchid", "DarkTurquoise"]



$a := 100;$

100

(11)

$pg100 := pg; p100 := p;$

$$\frac{1}{200} \frac{e^{-\frac{1}{200}(x-100)^2}}{\sqrt{\pi}} \sqrt{2} \sqrt{100}$$

$$\frac{100^x e^{-100}}{x!}$$

(12)

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setcolors(["Red", "Black"]); plot({pg100, p100}, x = 50 ..150);  
["Red", "Red", "Red", "Red", "Black", "Black", "Black", "Black"]
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