

with(*Gym*) :

LOD	VÆGT	AFSTAND
-	-	8.3 cm
0	20.08 g	− 9.6 cm
1 (20)	40.18 g	− 11.05 cm
2 (50)	70.14 g	− 13.1 cm
3 (50 + 20)	90.25 g	− 14.5 cm
4 (50 + 50)	120.27 g	− 16.55 cm
5 (50 + 50 + 20)	140.60 g	− 17.97 cm
6 (50 + 50 + 50)	170.32 g	− 19.96 cm
7 (50 + 50 + 50 + 20)	190.46 g	− 21.34 cm
8 (50 + 50 + 50 + 50)	220.39 g	− 23.48 cm
9 (50 + 50 + 50 + 50 + 20)	240.54 g	− 24.8 cm
10 (50 + 50 + 50 + 50 + 50)	270.59 g	− 26.84 cm

$m := [(0\text{ g}, 20.08\text{ g}, 40.18\text{ g}, 70.14\text{ g}, 90.25\text{ g}, 120.27\text{ g}, 140.60\text{ g}, 170.32\text{ g}, 190.46\text{ g}, 220.39\text{ g},$
 $240.54\text{ g}, 270.59\text{ g})]$

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$[0, 20.08\text{ g}, 40.18\text{ g}, 70.14\text{ g}, 90.25\text{ g}, 120.27\text{ g}, 140.60\text{ g}, 170.32\text{ g}, 190.46\text{ g}, 220.39\text{ g},$
 $240.54\text{ g}, 270.59\text{ g}]$

Før vi skriver data ind til x_0 , lægger vi lige 8.3 til dem alle sammen.

$x_0 := [(0\text{ cm}, -1.3\text{ cm}, -2.75\text{ cm}, -4.8\text{ cm}, -6.2\text{ cm}, -8.25\text{ cm}, -9.67\text{ cm}, -11.66\text{ cm}, -13.04\text{ cm},$
 $-15.18\text{ cm}, -16.5\text{ cm}, -18.54\text{ cm})]$

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$[0, -1.3\text{ cm}, -2.75\text{ cm}, -4.8\text{ cm}, -6.2\text{ cm}, -8.25\text{ cm}, -9.67\text{ cm}, -11.66\text{ cm}, -13.04\text{ cm},$
 $-15.18\text{ cm}, -16.5\text{ cm}, -18.54\text{ cm}]$

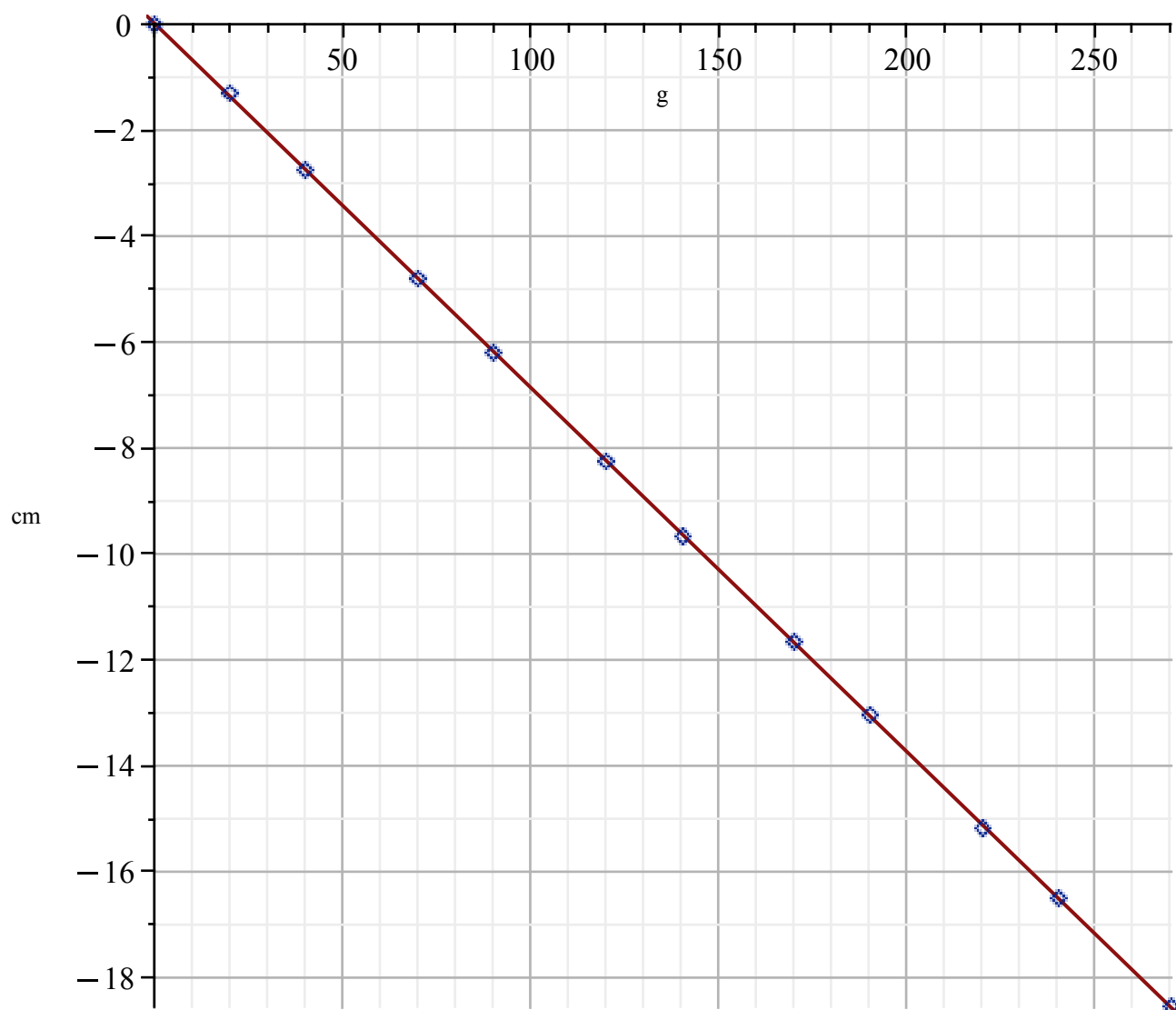
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$LinReg(m, x_0)$

Lineær regression

$$y = -0.068709 x \frac{\text{cm}}{\text{g}} + 0.020406 \text{ cm}.$$

Forklaringsgrad $R^2 = 0.99997$



Til at påvise forsøg 2 igen:

$m = 170.34 \text{ g}$

$$-0.068709 \frac{\text{cm}}{\text{g}} = - \frac{9.82 \frac{\text{m}}{\text{s}^2}}{k} \xrightarrow{\text{solve}} \left\{ k = 14.29215969 \frac{\text{kg}}{\text{s}^2} \right\}$$