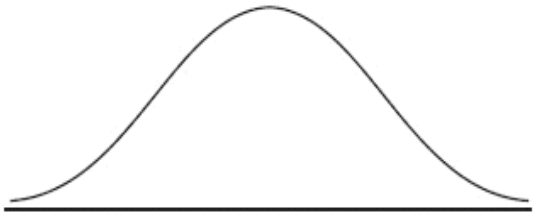
Normal distribution

A hospital has recorded data on birth weights, noting that they are normally distributed with mean 3.2kg and standard deviation 575g.

This can be written as $N(3.2, 0.575^2)$



Note:

- the units are different – be careful!
- in this case they have given the standard deviation – they might give you the variance which you then need to square root to get the sd.

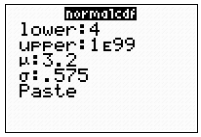
Also please note that this data is **utterly** ficticious!

What percentage of babies weigh more than 4kg?

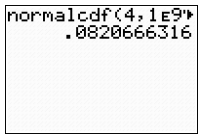
Select the Normal CDF distribution on the calculator.

2nd [DISTR] 2

Then enter the appropriate parameters.
(Note we are finding the percentage from 4kg up to $1x10^{99}$kg, ie any above 4kg.)



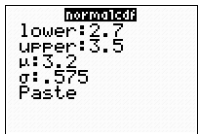
Press ENTER on "Paste" before pressing ENTER again to obtain the answer.

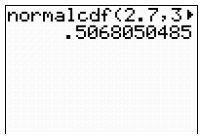


So 8.21% are over 4kg in weight.

What percentage of babies weigh between 2.7kg and 3.5kg?

(Same steps as above but with different limits.)



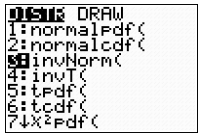


50.7% are between 2.7kg and 3.5kg.

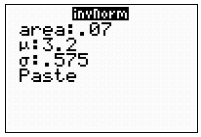
7% of babies need additional support in an incubator. What is the weight at which this happens?

Select the Inverse Normal distribution on the calculator.

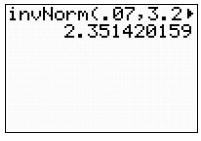
2nd [DISTR] 3



Then enter the appropriate parameters.
(Remember to convert 7% to a decimal.)



Again, press ENTER on "Paste" before pressing ENTER again to obtain the answer.



Babies under 2.35kg typically need additional support.

Note:
If we wanted the top 7% we would repeat this process using 0.93 as the "area".