

Assume we are working with a normal population of weights with mean 65kg and standard deviation of 12kg.


What is the  $P(60 \leq x \leq 75)$ ?

Tap **Calc, Distribution**.

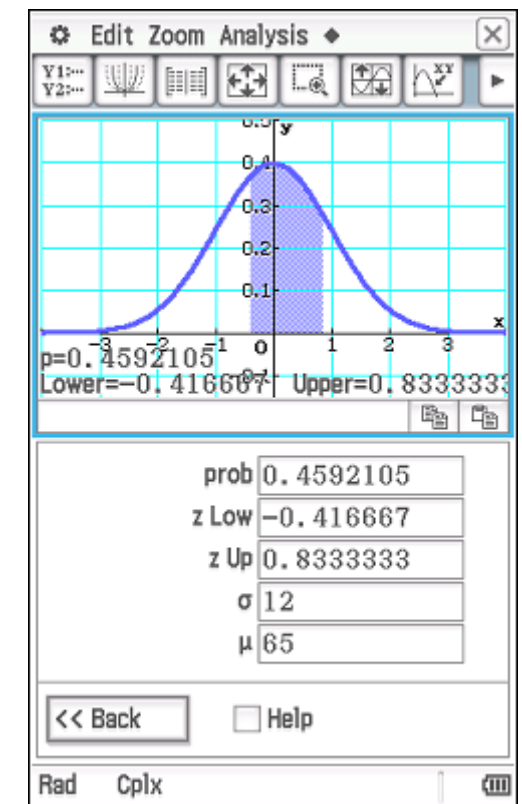
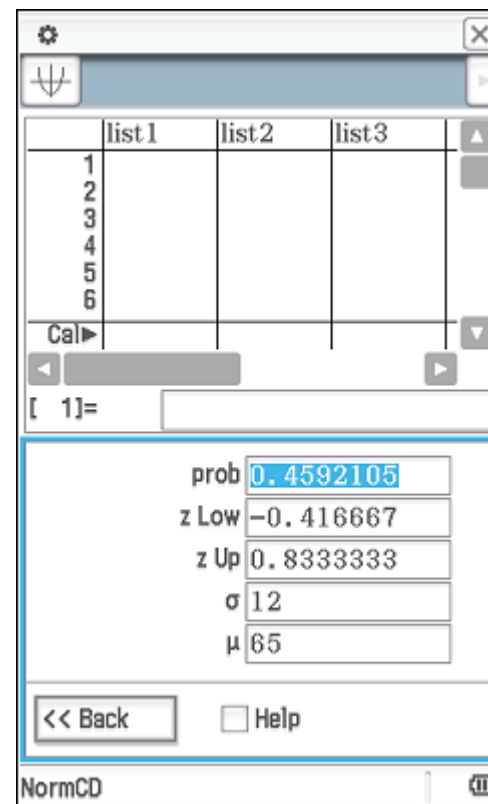
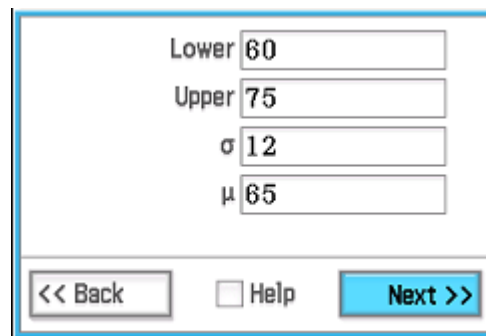
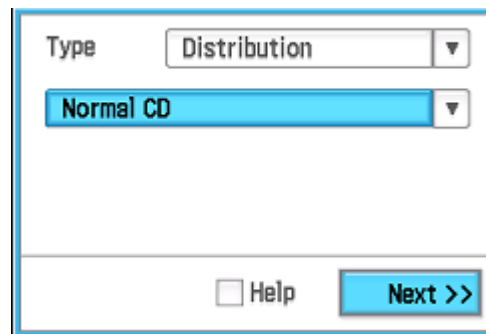
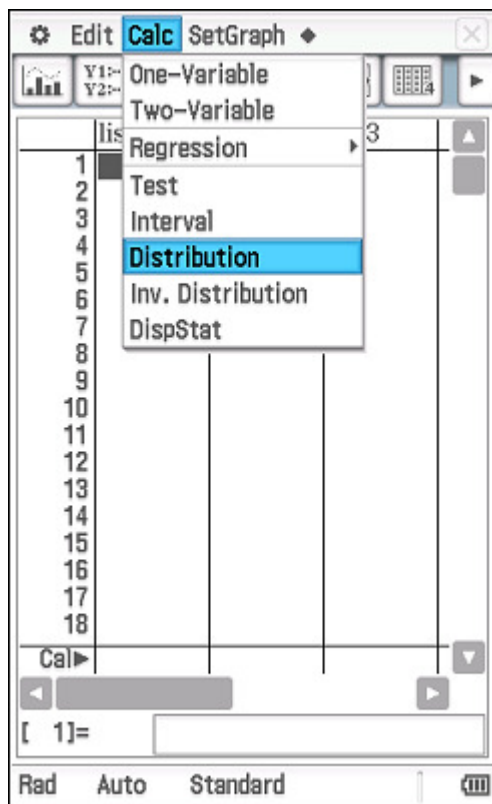
Next select **Normal CD**.

Enter the four required values as shown and then tap **Next**.

The probability is just under 0.46.

Tap the Draw graph icon .

The graph of the distribution is shown.



What is the  $P(x \geq 60)$ ?

Tap back and repeat the previous steps.  
When entering the upper value use positive infinity – the  $\infty$  symbol from the **Math2** keyboard.

The probability is just over 0.66.

Lower 60  
Upper  $\infty$   
 $\sigma$  12  
 $\mu$  65

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Math1 Line  $\sqrt{\square}$   $\pi$   $\rightarrow$   
Math2  $\square^{\square}$   $e^{\square}$   $\ln$   $i$   $\infty$   
Math3  $\int \square$   $\frac{d}{d\square}$   $\frac{d}{d\square}$   $\int \square$   $\lim_{\square \rightarrow \square}$   
Trig  $\square(\square)$   $\square(\square)$   $\square(\square)$   $\Sigma \square$   $\int \square$   
Var sin cos tan  $\theta$   $t$   
abc  $\leftarrow$   $\rightarrow$  ans EXE

NormCD

Y1: Y2:  
p=0.6615389  
Lower=-0.416667 Upper=8.33E+997

prob 0.6615389  
z Low -0.416667  
z Up 8.33E+997  
 $\sigma$  12  
 $\mu$  65

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Rad Cplx

Check that you agree with the result shown for the  $P(x \leq 75)$ .

Hint: Enter  $-\infty$  for the lower value.

Normal probabilities can also be calculated in Main and also using the normCDF function in a solve strip within an eActivity.

These are explained in other help sheets. Please refer to the menu.

Lower  $-\infty$   
Upper 75  
 $\sigma$  12  
 $\mu$  65

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Math1 Line  $\sqrt{\square}$   $\pi$   $\rightarrow$   
Math2  $\square^{\square}$   $e^{\square}$   $\ln$   $i$   $\infty$   
Math3  $\int \square$   $\frac{d}{d\square}$   $\frac{d}{d\square}$   $\int \square$   $\lim_{\square \rightarrow \square}$   
Trig  $\square(\square)$   $\square(\square)$   $\square(\square)$   $\Sigma \square$   $\int \square$   
Var sin cos tan  $\theta$   $t$   
abc  $\leftarrow$   $\rightarrow$  ans EXE

NormCD

Y1: Y2:  
p=0.7976716  
Lower=-8E+997 Upper=0.8333333

prob 0.7976716  
z Low -8E+997  
z Up 0.8333333  
 $\sigma$  12  
 $\mu$  65

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Rad Cplx