

Normal distribution calculations in STAT Mode.

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Select STAT mode from the main menu by using the arrow keys to highlight the STAT icon or pressing 2.



Entry from the MAIN MENU

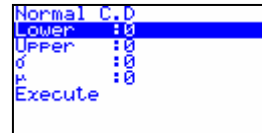


F5 for DISTRIBUTIONS



F2 for Normal Cumulative Distribution

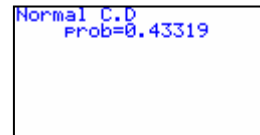
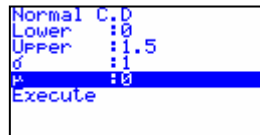
The z score transformation formula $z = \frac{X - \mu}{\sigma}$



Examples for $\sigma = 1$ and $\mu = 0$:

- Calculate Prob($0 < Z < 1.5$)
- Calculate Prob($Z < -2.5$)
- Calculate Prob($1 < Z < 2.75$)
- Calculate Prob($Z > -1.86$)
- Calculate Prob($-2 < Z < 2$)

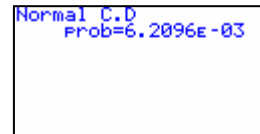
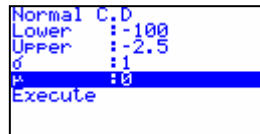
(a)



Answer:

Probability is 43.3 % (1dp)

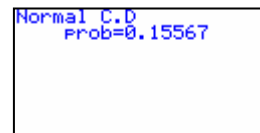
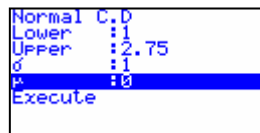
(b)



Answer:

Probability is 0.6 % (1dp)

(c)



Answer:

Probability is 15.6 % (1dp)

(d)

Normal C.D		Normal C.D
Lower	: -1.86	Prob=0.96855
Upper	: 100	
σ	: 1	
μ	: 0	
Execute		

Answer: Probability is 96.9 % (1dp)

(e)

Normal C.D		Normal C.D
Lower	: -2	Prob=0.95449
Upper	: 2	
σ	: 1	
μ	: 0	
Execute		

Answer: Probability is 95.4 % (1dp)

Example for $\sigma \neq 1$ and $\mu \neq 0$:

Calculate the probability that a student scores an A bursary (a score $> 65\%$) where the mean is 55% and the standard deviation is 17% .

[Assume Normal Distribution to model your answer.]

Normal C.D		Normal C.D
Lower	: 65	Prob=0.27818
Upper	: 200	
σ	: 17	
μ	: 55	
Execute		

Answer: Probability is 27.8% (1dp)

[N.B. To work through a number of Normal Distribution problems, after each completed question and answer, press **EXIT to move back to the previous window where you can enter the upper and lower bounds for the next normal distribution problem.]**