TI-84 Graphing Calculator Examples

LU6

Using the Graphing Calculator for the Normal Distribution

1. Find P(z<.44) Use normalcdf

1. 2nd
2. VARS
3. normalcdf
4. Hit enter
6. lower = -999 (left most point) *Note:* when you don't have a left point, use -999
7. upper = .44 (right most point)
8. μ = 0 (the mean of z)
9. σ = 1 (the standard deviation of z) Scroll down to Paste
10. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form normalcdf(leftpoint,rightpoint) For this example: normalcdf(-999,.44)
Be sure to use the negative button (bottom right key) instead of the minus sign.

Answer: .6700

2. P(z>.44)

1. 2nd
2. VARS
3. normalcdf
4. Hit enter
6. lower = .44 (left most point)
7. upper = 999 (right most point) *Note:* when you don't have a right point, use 999
8. μ = 0 (the mean of z)
9. σ = 1 (the standard deviation of z) Scroll down to Paste

10. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form normalcdf(leftpoint,rightpoint) For this example: normalcdf(.44,999)

Answer: .32997

3. P(-1.07<z<.67)

1. 2nd
2. VARS
3. normalcdf
4. Hit enter
6. lower = -1.07 (left most point)
7. upper = .67 (right most point)
8. μ = 0 (the mean of z)
9. σ = 1 (the standard deviation of z) Scroll down to Paste
10. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form normalcdf(leftpoint,rightpoint) For this example: normalcdf(-1.07,.67)

Answer: .6063

4. Find z if the area to the left of z is .3050 Use invNorm

1. 2nd
2. VARS
3. invNorm
4. Hit enter
6. area = .3050 *Note:* the calculator always wants the left most area entered
7. μ = 0 (the mean of z)
8. σ = 1 (the standard deviation of z) Scroll down to Paste
9. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form invNorm(area to left) For this example: invNorm(.3050)

Answer: z = -.51

5. Find z if the area to the right of z is .9265

Note: you need the area to the left, so 1 - .9265 = .0735

1. 2nd
2. VARS
3. invNorm
4. Hit enter
6. area = .0735 *Note:* the calculator always wants the left most area entered
7. μ = 0 (the mean of z)
8. σ = 1 (the standard deviation of z) Scroll down to Paste
9. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form invNorm(area to left) For this example: invNorm(.0735)

Answer: z = -1.45

Applications:

1. Men's heights are normally distributed with a mean of 69.5 inches and a standard deviation of 2.4 inches. If one man is randomly selected, find the probability the he is taller than 68.3 inches.
Use normalcdf

1. 2nd
2. VARS
3. normalcdf
4. Hit enter
6. lower = 68.3 (left most point)
7. upper = 999 (right most point)

8. μ = 69.5 (the mean of this distribution)

9. σ = 2.4 (the standard deviation of this distribution) Scroll down to Paste

10. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form normalcdf(leftpoint,rightpoint,μ,σ) For this example: normalcdf(68.3,999,69.5,2.4)

Answer: .6915

2. If one man is randomly selected, find the probability the he is between 63.2 and 70.4 inches. Use normalcdf

1. 2nd

2. VARS

3. normalcdf

4. Hit enter

6. lower = 63.2 (left most point)

7. upper = 70.4 (right most point)

8. μ = 69.5 (the mean of this distribution)

9. σ = 2.4 (the standard deviation of this distribution) Scroll down to Paste

10. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form normalcdf(leftpoint,rightpoint,μ,σ) For this example: normalcdf(63.2,70.4,69.5,2.4)

Answer: .6418

3. IQ is normally distributed with a mean of 100 and a standard deviation of 15. Find P90, that score at the 90th percentile. Use invNorm

1. 2nd

2. VARS

3. invNorm

4. Hit enter

6. area = .90 *Note:* the calculator always wants the left most area entered

7. μ = 100 (the mean of this distribution)

8. σ = 15 (the standard deviation of this distribution) Scroll down to Paste

9. Hit enter twice

Note: The older TI-84 Plus Graphing Calculator will NOT prompt you. You must have your command in the form invNorm(area to left,μ,σ) For this example: invNorm(.90,100,15)

Answer: X = 119.22
