

Chapter 13 / Example 9

Normal distribution

If $X \sim N(10, 4)$ find

a $P(9 < X < 12)$ **b** $P(X < 13)$ **c** $P(X > 7)$

Open a new document and add a Calculator page.

Press **menu** 5:Probability | 5:Distributions | 2:Normal Cdf...

Set the Lower bound to 9, the Upper Bound to 12, μ to 10 and σ to 2.

Press **enter**.

$$P(9 < X < 12) = 0.533.$$

Press **menu** 5:Probability | 5:Distributions | 2:Normal Cdf...

Leave the Lower bound as -9E999, set the Upper Bound to 13, μ to 10 and σ to 2.

-9E999 means -9×10^{999} - a very small number.

Press **enter**.

$$P(X < 13) = 0.933.$$

Press **menu** 5:Probability | 5:Distributions | 2:Normal Cdf...

Set the Lower bound to 7, the Upper Bound to 9E999, μ to 10 and σ to 2.

9E999 means 9×10^{999} - a very large number.

To enter E press **EE**.

Press **enter**.

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$$P(X > 7) = 0.933.$$

normCdf(9,12,10,2)	0.532807
normCdf(-9.999,13,10,2)	0.933193
normCdf(7,9.999,10,2)	0.933193