



**MathsNET**

A joined up approach to  
teaching and learning  
mathematics

# The central limit theorem

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- Explain the scope of the central limit theorem. What do we want to know about the sum of a set of random variables
- State the central limit theorem, ensuring that you define all the terms within the equation.
- Explain the rationale for writing the central limit theorem without the limit sign
- In order for the central limit theorem to have any predictive value what must we be able to say about the expectation and variance of our random variable.



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- Explain what we mean by a confidence limit and the meanings of the symbols  $\epsilon$  and  $p_c$  that are introduced in the video.
- Explain in your own words why  $p_c = 2\Phi\left(\frac{\epsilon}{\sigma/\sqrt{n}}\right) - 1$
- If I perform 20 measurements of some random quantity  $X$  how many of my measurements would I expect to lie within the 95