

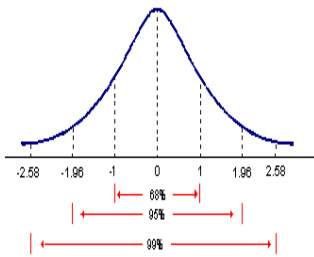
## Goals

### Topic 3: Statistical inference

This week:

Confidence intervals for means:

- understand the concept of an interval estimate for a parameter associated with a random variable
- examine the approximate confidence interval  $\left(\bar{X} - \frac{zs}{\sqrt{n}}, \bar{X} + \frac{zs}{\sqrt{n}}\right)$ , as an interval estimate for  $\mu$ , the population mean, where  $z$  is the appropriate quantile for the standard normal distribution



Source: <https://goo.gl/jvS1ve>

## Theoretical Components

Read the notes and study the examples.  
(Classroom/ABOUT/Resources/S2/Term4/WK13)

<https://goo.gl/k33iv1>

Further notes/examples:

<https://goo.gl/tsCdcz>

Video Examples:

- <https://goo.gl/NvaqX>
- <https://goo.gl/ud9RMf>
- <https://goo.gl/p8yD6h>

CAS CP400: Sampling Dist of Sample Mean

<https://youtu.be/moj-2A6lGRc>

## Practical Components

**Exercises:**

Attempt questions from here:

<https://goo.gl/k33iv1>

## Investigation

Calculate 95% confidence interval for the average height (cm) for staff and students at Hawker College.

You need to report on your data selection method and show your calculations.

Sampling technique (5), Calculations (5): 10 marks

**QFO**

Quiz/Forum/Other

**Quiz:**

Attempt all 10 questions here: <https://goo.gl/p2ZrZq>