chapter 3 Probability 2

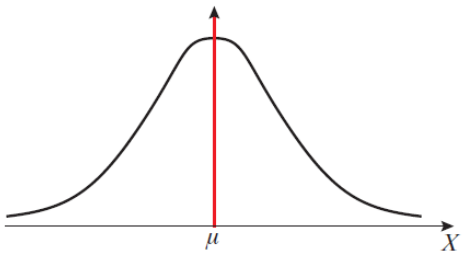
Section 3.6 The normal distribution

PROJECT MATHS
Text & Tests 5
LEAVING CERTIFICATE
HIGHER LEVEL
STRAND 1
PROBABILITY & STATISTICS

The normal distribution is the most important continuous distribution in statistics.

The curve on the right shows a normal distribution with mean μ.
The red line is the axis of symmetry.

The mode, median and mean are all equal.
They lie on the axis of symmetry.



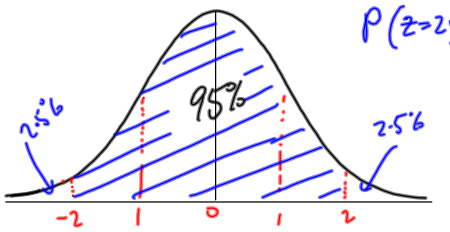
"mew"
mean
median
mode

Empirical Rule

$\mu \pm \sigma$ 68%

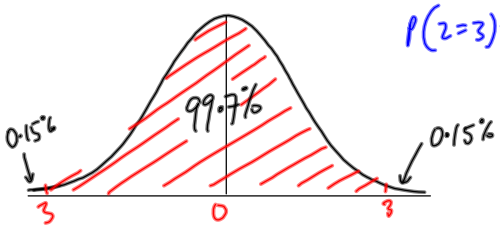
$P(z<1) = 84\%$

$\mu \pm 2\sigma$ 95%



$P(z<2) = 97.5\%$

$\mu \pm 3\sigma$ 99.7%

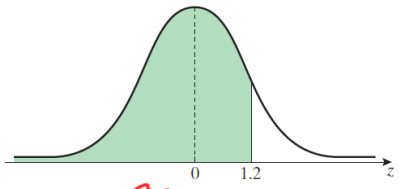


$P(z<3) = 99.85\%$

Exercise 3.6

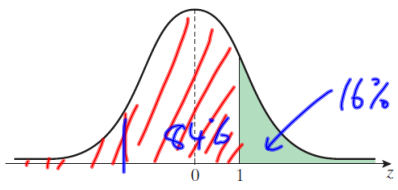
1. Using your *Formulae and Tables* book, find the area of the shaded region under each of the following standard normal curves:

(i)

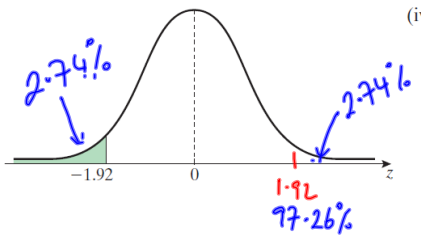


98.49%

(ii)

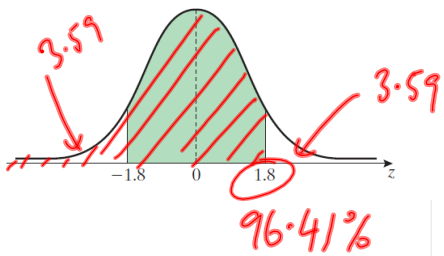


(iii)



97.26%

(iv)



96.41%

HW 3.6 Q1-16

$100 - (2(3.59))$
$= 92.82\%$