St Bede's Catholic College

Year 11 into 12 Transition Work

Maths Studies

Exam board: AQA 1350

Course length: One year

Specification: https://www.aqa.org.uk/subjects/mathematics/aqa-certificate/mathematical-studies-1350/specification-at-a-glance

Exam structure:

2 exams at the end of the year

Paper 1 (90 minutes)

Paper 2a statistical techniques (90 minutes)

Useful textbooks/resources:

It is important to read newspapers or websites which refer to stories incorporating data, particularly surveys and percentages.

https://www.bbc.co.uk/news

https://www.theguardian.com/world/coronavirus-outbreak

This is the textbook we use: https://www.aqa.org.uk/subjects/mathematics/aqa-certificate/mathematical-studies-1350

Useful websites:

https://www.bbc.co.uk/programmes/b006qshd

'More or Less' debunks the use of data in today's life.

https://www.badscience.net/about-dr-ben-goldacre/

Ben Goldacre investigates the use and misuse of data in today's world.

Preparatory podcasts/lectures:

Look at the Ted talks but also the questions asked and the additional material.

https://ed.ted.com/lessons/the-dark-history-of-iq-tests-stefan-c-dombrowski (The use of IQ tests)

https://ed.ted.com/lessons/learning-from-smallpox-how-to-eradicate-a-disease-julie-garon-and-walter-a-orenstein (How to eradicate a disease)

https://ed.ted.com/best_of_web/VKn8FSio (Looking at the population of India and China)

https://ed.ted.com/lessons/the-paradox-of-efficiency-edward-tenner (How can we be efficient?)

Sample/past papers:

https://www.aqa.org.uk/subjects/mathematics/aqa-certificate/mathematical-studies-1350/assessment-resources?f.Resource+type%7C6=Question+papers

Transition work:

Task 1

To be found on https://corbettmaths.com/contents/ complete the practice questions on A4 paper.

Percentages: increasing\decreasing Video 238 Practice Questions
Percentages: compound interest Video 236 Practice Questions
Percentages: reverse Video 240 Practice Questions

Task 2

Answer the problems on the following postcards. You must give very extensive answers, using mathematics. Explain what you have done and why, including any estimates you have made. Also look for different ways of answering the questions. It is anticipated each of these questions would take up at least 1/2 a side of A4 paper.

Here are some data from a trial of a new eczema cream. 90 people either used the new cream or a cream that was already commonly used for eczema.

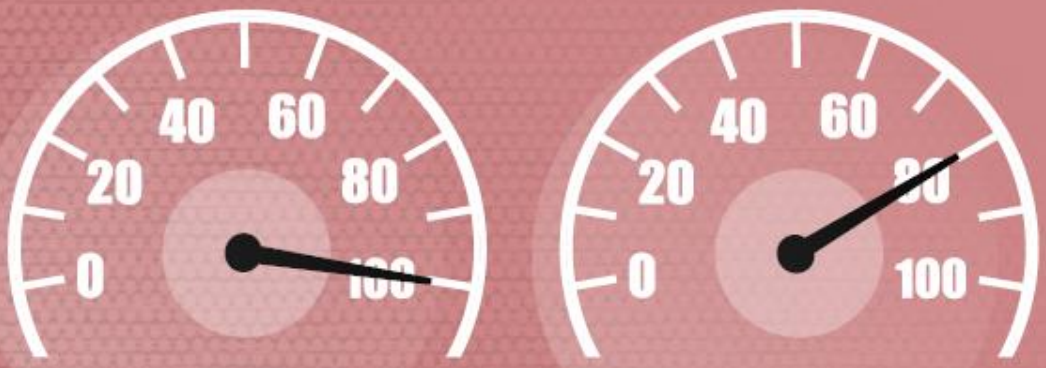
	New cream	Old cream
Improvement	25	34
No improvement	15	16

Is the new cream better than the old cream?

MEI Innovators in Mathematics Education

OCR

Bob is about to buy a new car. He reads that cars drop in value by about 20% a year.



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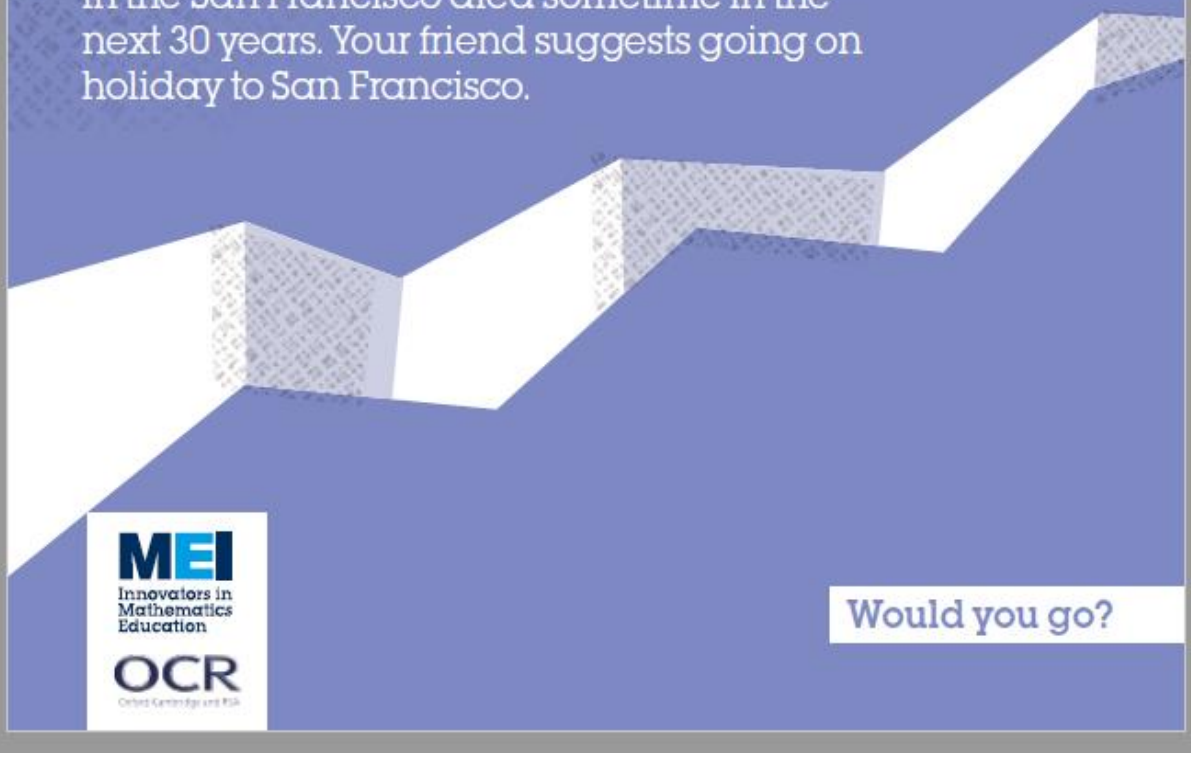
OCR

Is it true that his car will be worth 80% less than the new value after 4 years?

There is a 63% chance of a major earthquake in the San Francisco area sometime in the next 30 years. Your friend suggests going on holiday to San Francisco.



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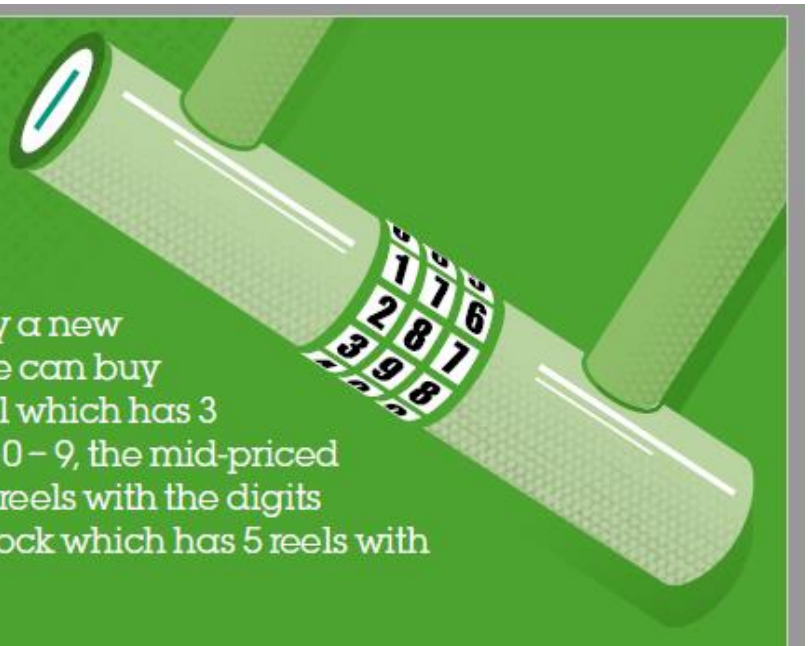
OCR

Would you go?



Denise wants to buy a new lock for her bike. She can buy the cheapest model which has 3 reels with the digits 0 – 9, the mid-priced model which has 4 reels with the digits 0 – 9, or the deluxe lock which has 5 reels with the digits 0 – 9.

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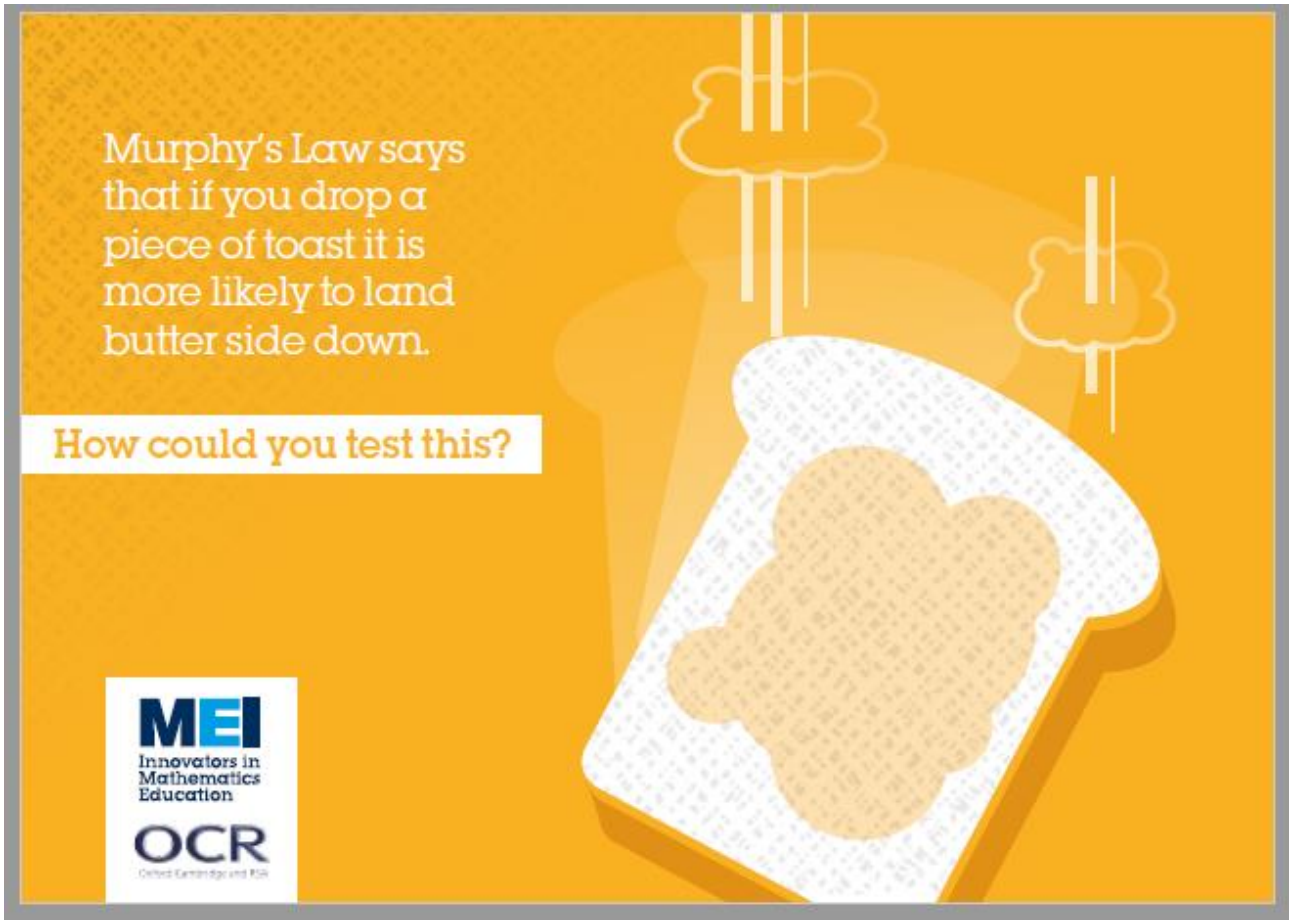
How long would it take someone to guess the combination on each of these locks?



Mrs Hathaway is Head of A Level Maths. Please email her on m.hathaway@stbcc.org with any queries.