

Free-Standing Mathematics Qualification Advanced Level June 2013

# Using and Applying <br> 6994/2PM <br> Decision Mathematics 

Unit 14

## Preliminary Material

## Data Sheet

To be opened and issued to candidates between
Tuesday 30 April 2013 and Tuesday 7 May 2013

REMINDER TO CANDIDATES
YOU MUST NOT BRING THIS DATA SHEET WITH YOU WHEN YOU SIT THE EXAMINATION. A CLEAN COPY WILL BE MADE AVAILABLE.

## Flat construction

The shell of a flat has been constructed. The inside is to be completed and some of the following activities need to be carried out.

Artexing
Cleaning
Electrics (first fix)
Electrics (second fix)
Fitting kitchen units
Fitting bathroom units
Joinery (first fix)
Joinery (second fix)
Painting
Plasterboarding
Plastering
Plumbing (first fix)
Plumbing (second fix)
Studding
Tiling bathroom
Tiling kitchen
Wallpapering

## Wind farms



The largest offshore wind farm in Europe is situated off the coast of Kent.

Turbines at this wind farm are arranged in rows. The turbines within each row are 500 metres apart. The rows are 800 metres apart.

The average water depth is 25 metres.

## Palm Springs

The diagram shows a network of roads in Palm Springs and the locations of houses of some celebrities who live in the town.
The houses are situated at vertices labelled A, B, C, ..., P.
The table on page 4 shows the distances, in kilometres, between pairs of houses.


These data continue on the next page

|  | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | - | 1 | 4.2 | 5.7 | 4 | 3.6 | 4.5 | 5.5 | 6.8 | 10.6 | 10.6 | 11.7 | 12 | 12.7 | 11.5 | 11.5 |
| B |  | - | 3.2 | 4.7 | 3 | 2.6 | 3.5 | 4.5 | 5.8 | 9.6 | 9.6 | 10.7 | 11 | 11.7 | 10.5 | 10.5 |
| C |  |  | - | 1.5 | 4.5 | 5.2 | 6.1 | 7.1 | 8.4 | 12.2 | 13.5 | 14.6 | 14.9 | 15.6 | 14.4 | 14.4 |
| D |  |  |  | - | 3 | 3.7 | 4.6 | 5.6 | 6.9 | 10.7 | 12 | 13.1 | 13.4 | 14.1 | 12.9 | 12.9 |
| E |  |  |  | - | 0.7 | 1.6 | 2.6 | 3.9 | 7.7 | 9 | 10.1 | 10.4 | 11.1 | 9.9 | 9.9 |  |
| F |  |  |  |  | - | 0.9 | 1.9 | 3.2 | 7 | 8.3 | 9.4 | 9.7 | 10.4 | 9.2 | 9.2 |  |
| G |  |  |  |  |  | - | 1 | 2.3 | 6.1 | 7.4 | 8.5 | 8.8 | 9.5 | 8.3 | 8.3 |  |
| H |  |  |  |  |  |  |  | - | 1.3 | 5.1 | 6.4 | 7.5 | 7.8 | 8.5 | 7.3 | 7.3 |
| I |  |  |  |  |  |  |  | - | 3.8 | 5.1 | 6.2 | 6.5 | 7.2 | 6 | 6 |  |
| J |  |  |  |  |  |  |  |  | - | 1.3 | 2.4 | 3.6 | 4.7 | 4 | 5.2 |  |
| K |  |  |  |  |  |  |  |  |  | - | 1.1 | 2.3 | 3.4 | 2.7 | 3.9 |  |
| L |  |  |  |  |  |  |  |  |  |  | - | 1.2 | 2.3 | 3.5 | 4.7 |  |
| M |  |  |  |  |  |  |  |  |  |  |  |  | - | 1.1 | 2.3 | 3.5 |
| N |  |  |  |  |  |  |  |  |  |  |  |  | - | 1.2 | 2.4 |  |
| O |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 1.2 |
| P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |

## END OF DATA SHEET

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Wind farms: © Getty Images

