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| EGC_Black | Student Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **Eastern Goldfields College**  Mathematics Applications U3&4 2016  Investigation 2 – Networks  1 |

**Task weighting:** 5% This investigation is in two parts.

**Part A** Take home - This is to be completed for homework. You will need to record all your answers onto a single double-sided A4 paper. **(0 marks)**

**Part B** Validation - 50 minutes in class, under test conditions, that will test your understanding of the investigation in Part A. You will have access to your A4 page of notes from Part A. **(50 marks)**

**Part A - Networks Roads**

To prepare for the in-class, validation component of this investigation create one, double-sided, A4 page of notes which describe the following terms as they apply to networks and which provide information to complete the set tasks.

**Terminology**

|  |  |  |  |
| --- | --- | --- | --- |
| graph | node | vertex | edge |
| face | planar | simple | trail |
| cycle | shortest path | loop | multiple edge |

**Tasks**

* Apply Euler’s formula to identify a planar graph
* Identify a Hamiltonian path or cycle
* Identify a Eulerian trail

|  |  |
| --- | --- |
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**Part A - Networks Roads**

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**Terminology**

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**Tasks**

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* Identify a Hamiltonian path or cycle
* Identify a Eulerian trail