



**Cambridge Assessment International Education**  
Cambridge International General Certificate of Secondary Education

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**INFORMATION AND COMMUNICATION TECHNOLOGY**

**0417/02**

Paper 2 Practical Test A

**October/November 2018**

MARK SCHEME

Maximum Mark: 80

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**Published**

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

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This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

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This document consists of **13** printed pages.

**Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

**GENERIC MARKING PRINCIPLE 1:**

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

**GENERIC MARKING PRINCIPLE 2:**

Marks awarded are always **whole marks** (not half marks, or other fractions).

**GENERIC MARKING PRINCIPLE 3:**

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

**GENERIC MARKING PRINCIPLE 4:**

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

**GENERIC MARKING PRINCIPLE 5:**

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

**GENERIC MARKING PRINCIPLE 6:**

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Header Name, Centre number, candidate number right aligned 1 mark

Name, Centre Number, Candidate Number

# History of Tawara Mining

Report produced by: Candidate Name

Tawara is best known today for its tourism and farming but there was a time when it was known for its tin mining.

Subtitle

Name inserted, THM-Subtitle style created and applied 1 mark  
(serif, 18pt, left aligned, underline only, 0 space before/after)

Title

Data entry 100% accurate 1 mark  
THM-Title style created and applied 1 mark  
(right, serif, 36pt, bold only, 0 space before/after)



The first part of the 19th century was the peak for mining in this area with most of the world's copper being mined here. The largest, deepest and oldest mine in the world was located here until its closure in 1921. It was a massive mine, 1.5 miles long and 1.5 miles wide. It was the largest mine in the world at the time.

Image

Image inserted in correct position 1 mark  
Aligned to top of text and left margin, text wrapped 1 mark  
Resized to 3.5 cm wide, aspect ratio maintained 1 mark

Columns

Section break correct position 1 mark  
2 columns, 2 cm column spacing 1 mark

future leader of the industry. copper, lead and zinc.

The mining process consisted of a shaft sunk into the ground from which tunnels or drives would be blasted from the rock to reach the seams that contained the ore. The ore was then raised to the surface by a system of pulleys and cables. The ore was then crushed and the valuable ore from the rock was taken from it. The ore was then processed in a processing mill. The extraction methods were used to extract the metals.

2 page breaks removed (after subhead *Dangers* and text ... and even Peru.) 1 mark

## Dangers

Page break removed

Any job working below the ground is potentially hazardous and mining was no exception. Conditions were hot, oppressive and very dangerous but miners were prepared to work in such conditions. They were well paid compared to other jobs at the time.

Footer – Page numbers left aligned, automated file name & path right aligned 1 mark

## Demise of Mining

In 1893 there were 67 mines in the area producing tin but by 1897 only 31 were still in production. Discoveries of mineral deposits in the New World caused many miners to leave. Thousands of miners moved to other parts of the world in search of more valuable minerals. Tin was much valued in the new world and even Peru.

Subheadings (7)

THM-Subhead style applied – matches style defined in Evidence Document 1 mark

Page break removed

Several minor revivals took place over the following century, but the mining industry never fully recovered and became completely unprofitable as it could not compete with mining expansion around the world. Metal mining eventually resulted in the

Name, Centre Number, Candidate Number

collapse of mining at Tawara on an industrial scale. The last working tin mine in Europe closed in 1998.

World Mining

Today the world’s top 5 mining countries are:

- Russia – iron, nickel, coal and cobalt
- South Africa – gold, copper and iron
- USA – copper, coal
- Australia – iron, nickel and bauxite
- China – gold, iron, bauxite, copper

**Bullets**

Square bullets applied to correct list 1 mark  
 Bullets indented 1.5 cm from left margin, no space between items 1 mark

importance to rulers and traders. It was alloyed with copper to make bronze for utensils, weapons and decorations in a material that was far superior to stone.

Tin revolution enabled for wrapping everyday steel or aluminium an important comparative China and The largest in Portugal

- Table content complete, correct place, no changes to data 1 mark
- Year 2000 price per kg column deleted 1 mark
- Nickel row inserted, data 100% accurate 1 mark
- Sort Metal Name ascending order, integrity maintained 1 mark
- Top row merged, heading centred over 5 columns 1 mark
- Top row only text bold, italic, 14 pt sans-serif font 1 mark
- Table within column width, text on one line, all borders/gridlines printed 1 mark
- THM-Table style created and applied rows 2 to 8 1 mark
- (serif, 11pt, centre, no space before/after each row)

The Future

Over recent times the price of tin in particular has been soaring again due to limited reserves found around the world. Current metal prices are as follows:

<b>BASE METAL PRICE USD</b>				
Metal name	Price/kg	Price/tonne	Price low	Price high
Aluminium	1.74	1635.01	1.55	1.74
Copper	5.11	4885.02	4.55	5.63
Lead	1.88	1817.51	1.63	1.97
Nickel	11.27	10794.13	8.05	11.48
Tin	18.77	17965.03	14.01	19.01
Zinc	2.35	2280.91	1.52	2.36

of metal are still found in Tawara granite and over the price is expected to double. Demand has also increased in the electronic and computer markets. Technology mean that the cost of extraction has environment regulations have all improved. Mining an attractive proposition and the never been brighter.

Heritage Mining

dition range of commemorative bullion of the mining industry. We are offering of purchasing commemorative ingots of Copper (reddish/orange in appearance), and Zinc (bluish/white in appearance). and is branded with the Tawara hallmark.

All have been sourced from Tawara ore production and are 99.9% pure.

**Page layout**

THM-Body style created and applied to all text - serif, 11pt, justified, single line, 0pt before 12pt space after only 1 mark  
 Document complete/paragraphs intact, landscape, columns balanced at top, no widows/orphans, split tables, lists, blank pages 1 mark

# Card payments in 2017

Cust_No	Title	First_Name	Last_Name	Order_ID	Order_Value	Gross_Value	Pay_Type
THM0053	Mr	Freddie	Greenwood	T183	€90	€108	Paycardo Wallet
THM002		Aaron	Bentley	T144	€90	€108	Paycardo Wallet
THM0081	Ms	Emma	Bailey				
THM0084	Miss	Francesca	Brooks				
THM0036	Mr	Lewis	Bates	T174	€120	€144	Debit Card
THM0071	Mr	Alex	Fisher	T188	€120	€144	Debit Card
THM0006	Mr	Gabriel	Bryan	T160	€135	€162	Debit Card
THM0090	Miss	Matilda	Craig	T195	€140	€168	Debit Card
THM0001	Mr	Luke	Kirby	T143	€90	€108	Credit Card
THM0038	Mr	Patrick	Woodward	T145	€90	€108	Credit Card
THM0083	Mr	Taylor	Hargreaves	T150	€90	€108	Credit Card
THM0098	Mr	Henry	Dodd	T156	€91	€109	Credit Card
THM0095	Mrs	Samantha	Walton	T40	€95	€114	Credit Card
THM0088	Mrs	Lara	Riley	T153	€105		
THM0051	Mr	Hayden	Parsons	T181	€120		
THM0086	Ms	Emma	West	T152	€120		
THM0086	Ms	Emma	West	T193	€120	€144	Credit Card
THM0030	Mrs	Alice	Lamb	T171	€120	€144	Credit Card
THM0001	Mr	Luke	Kirby	T1	€121	€145	Credit Card
THM0005	Miss	Ellie	Morley	T159	€121	€145	Credit Card
THM0009	Mrs	Jennifer	Welch	T161	€125	€150	Credit Card
THM0096	Ms	Ellie	Jenkins	T155	€130	€156	Credit Card
THM0009	Mrs	Jennifer	Welch	T198	€130	€156	Credit Card
THM0010	Mrs	Isabel	Price	T162	€131	€157	Credit Card
THM0091	Ms	Gracie	Stokes	T196	€135	€162	Credit Card
THM0044	Mrs	Samantha	Bowen	T201	€160	€192	Credit Card

Name, Centre number, Candidate number

**Title**  
Correct, 100% accurate 1 mark

**Calculated field**  
Heading 100% accurate 1 mark  
Order\_Value plus 20% 1 mark

**Select records (28):**  
Pay\_Type contains **card** 1 mark  
Order\_Year is **2017**, Order\_Value is **90 or more** 1 mark

Record THM0044 inserted as **new record** – THM0001 (T143/T1) not replaced 1 mark

**Average order value** €114

Order\_Value, Gross\_Value, Average Value same currency symbol, 0dp 1 mark  
Sort descending Pay\_Type, ascending Order\_Value no grouping 1 mark  
Specified base fields in correct order 1 mark  
Landscape, one page wide, all base fields present and fully visible 1 mark

Average Order\_Value positioned under Order\_Value column. 1 mark  
Label to left of calculation, 100% accurate 1 mark

**VIP Invitation!**

Mrs Samantha Bowen  
 York Lane  
 Folkestone HA15 8TR  
 31-Dec-14  
 4

Name, Centre number, Candidate number

**VIP Invitation!**

Ms Elie Jenkins  
 Wheel Alfred  
 Penzance TR18 3TF  
 23-Jul-13  
 4

Name, Centre number, Candidate number

**VIP Invitation!**

Mrs Isabel Price  
 Goodway  
 Glasgow CA4 1JK  
 02-Sep-10  
 6

Name, Centre number, Candidate number

**VIP Invitation!**

Ms Katie Rees  
 Talltrees  
 Croydon CR1 2HO  
 05-May-08  
 4

Name, Centre number, Candidate number

**VIP Invitation!**

Mr Joshua Summers  
 Coombe House  
 Tewkesbury CR2 5UN  
 03-Jun-05  
 3

Name, Centre number, Candidate number

**VIP Invitation!**

Mrs Jennifer Welch  
 Largeglen  
 Glasgow CA18 1BT  
 31-Dec-14  
 5

Name, Centre number, Candidate number

**VIP Invitation!**

Mr Sean Wells  
 Lowerhill Drive  
 Halifax HP12 3LO  
 03-Jun-05  
 3

Name, Centre number, Candidate number

**Select records (7)**

- Memb\_Type* is **Adult** or **Family** 1 mark
- Memb\_Date* is <01/01/2015, *Tin* is >=3 1 mark
- Sort ascending on *Last\_Name* 1 mark

**Layout:**

- Labels in 2 columns, 8 labels to page 1 mark
- Heading **VIP Invitation!** top of every label, centred, bold, larger font size 1 mark
- Fields on separate lines, correct position, space to separate:
- Title First\_Name Last\_Name
- Add1
- Town Postcode
- Memb\_Date
- Tin 1 mark
- Name, Centre number and candidate number bottom of every label 1 mark

MAIL MERGE

Name, Centre Number, Candidate number



### Tawara Heritage Mining

Twelve Heads  
St Way  
TR2 3WW  
Tel: 020 7946 0158  
Email: TMH@tawaramining.com



Image reflected 1 mark

09-Aug-16

«Title» «First\_Name» «Last\_Name»  
«Add1»  
«Town»  
«County»  
«PostCode»

Dear «First\_Name»

We are  
commen  
unveile

**Merge Fields inserted** – placeholders and <> correctly replaced  
«Title» «First\_Name» «Last\_Name» | «Add1» | «Town» | «County» |  
«Postcode» correct position and space 1 mark  
«First\_Name» | «Status» | «Bonus» | «Reward» correct position and spacing 1 mark

As an  
jo this  
equipment including drill-rigs, loaders and training simulators. You will also have free entry to  
our «Bonus» which tells the fascinating story of Tawara mining.

In recognition of your continued loyalty all VIP visitors will receive a gift of a branded  
commemorative «Rewards» coin. You will also be given the opportunity of purchasing a  
limited edition commemorative gold or silver bullion ingot. All the coins and ingots have been  
mined on site and are branded with the Tawara hallmark. They will only be available for  
purchase on the day and are sure to become collector items.

We look forward to welcoming you at the Tawara Heritage Mining open day.

Yours sincerely

Joe Bloggs  
Tawara Heritage Mining

Name replaces Candidate Name  
Name, Centre number and candidate number in the header 1 mark

Name, Centre Number, Candidate number



**Tawara Heritage Mining**  
Tawara Heads  
St Way  
TK2 3WV  
Tel: 020 7848 0158  
Email: TMH@tawaramining.com



09-Aug-18

**Mr Alex Lord**  
27 Bankside Street  
Coventry  
CV8 3WZ

Dear **Mr Lord**

We are delighted to inform you that we are introducing a limited edition range of commemorative bullion ingots to celebrate the history of Tawara Mining. These will be unveiled at our Open Day to be held on 4 December 2018.

As an **active** member of Tawara Heritage Mining we are pleased to offer you VIP tickets to this Open Day. There will be a great exhibition of heavy underground and surface equipment including drill rigs, loaders and training simulators. You will also have free entry to our **new** **Block Museum** which tells the fascinating story of Tawara mining.

In recognition of your continued loyalty all VIP visitors will receive a gift of a branded commemorative **50** coin. You will also be given the opportunity of purchasing a limited edition commemorative gold or silver bullion ingot. All the coins and ingots have been minted on site and are branded with the Tawara hallmark. They will only be available for purchase on the day and are sure to become collector items.

We look forward to welcoming you at the Tawara Heritage Mining open day.

Yours sincerely

Joe Bloggs  
Tawara Heritage Mining

Name, Centre Number, Candidate number



**Tawara Heritage Mining**  
Tawara Heads  
St Way  
TK2 3WV  
Tel: 020 7848 0158  
Email: TMH@tawaramining.com



09-Aug-18

**Ms Victoria Griffiths**  
27 Bankside Street  
Coventry  
CV8 3WZ

Dear **Ms Griffiths**

We are delighted to inform you that we are introducing a limited edition range of commemorative bullion ingots to celebrate the history of Tawara Mining. These will be unveiled at our Open Day to be held on 4 December 2018.

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We look forward to welcoming you at the Tawara Heritage Mining open day.


Yours sincerely

Joe Bloggs  
Tawara Heritage Mining

Name, Centre Number, Candidate number



**Tawara Heritage Mining**  
Tawara Heads  
St Way  
TK2 3WV  
Tel: 020 7848 0158  
Email: TMH@tawaramining.com



09-Aug-18

**Ms Anka Ploski**  
27 Queen Street  
Manchester  
M2 8JZ

Dear **Anka**

We are delighted to inform you that we are introducing a limited edition range of commemorative bullion ingots to celebrate the history of Tawara Mining. These will be unveiled at our Open Day to be held on 4 December 2018.

As an **active** member of Tawara Heritage Mining we are pleased to offer you VIP tickets to this Open Day. There will be a great exhibition of heavy underground and surface equipment including drill rigs, loaders and training simulators. You will also have free entry to our **new** **Block Museum** which tells the fascinating story of Tawara mining.

In recognition of your continued loyalty all VIP visitors will receive a gift of a branded commemorative **50** coin. You will also be given the opportunity of purchasing a limited edition commemorative gold or silver bullion ingot. All the coins and ingots have been minted on site and are branded with the Tawara hallmark. They will only be available for purchase on the day and are sure to become collector items.

We look forward to welcoming you at the Tawara Heritage Mining open day.

Yours sincerely

Joe Bloggs  
Tawara Heritage Mining

Result of merge – 3 letters printed –  
Alex Lord, Victoria Griffiths, Anka Ploski only 1 mark



**Task 5 – Presentation**

5 slides imported, title and bullet layout no blank slides, no text changed, no overlap 1 mark  
**Master slide** (items appear on all slides, same position and size):  
 Logo appears top right, resized with aspect ratio maintained, same position/size on all slides 1 mark  
 Name, Centre and candidate numbers bottom left, automatic slide numbers top left 1 mark  
 same position/size on all slides

### Base Metal Mining

- Around the world

### Copper Mining

- Escondida in Chile is the largest copper mine in the world
- Opened in 1988 it ranks as the third deepest open-pit operation
- Size - 3.9 kms long, 2.7 kms wide, 645 metres deep
- Output in 2013 was 1.1 million tonnes (Mt)
- Reserve life estimated to be 54 years
- Chile hosts six of the 10 largest copper mines in the world

### Zinc Mining

- Rampura Agucha in India is the largest zinc mine in the world
- Output in 2013 was 640,645 million tonnes
- Total reserves and resources are 103 million tonnes
- More than 50 countries around the world mine zinc ore
- About 80% of the world's zinc is mined underground

### Tin Mining



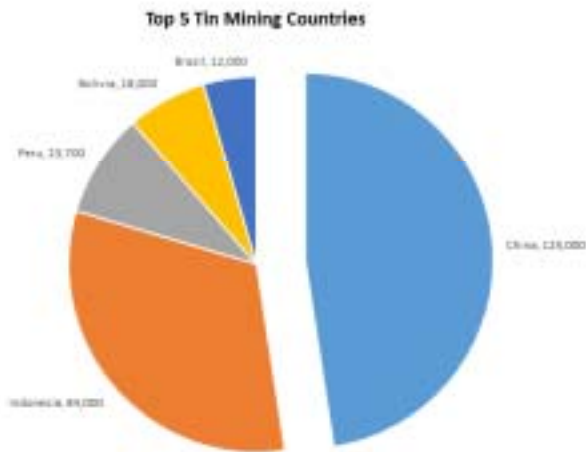
- Tin mining is dominated by China and Indonesia
- Accounts for over 70% of global mine output
- Estimates that the minable tin on Earth will be gone in 30 to 40 years
- Price of tin rapidly rising over the past 10 years

### Iron Ore Mining

- The largest iron mine in the world is Kiruna in Lapland
- Annual iron ore production capacity of over 26 million tonnes
- Reserves of 600 million tonnes
- Size - 4 kms (2.5 miles) long, depth of up to 2 kms (1.2 miles)



## Tin Mining



- Tin mining is dominated by China and Indonesia
- Accounts for over 70% of global mine output
- Estimates that the minable tin on Earth will be gone in 20 to 40 years
- Price of tin rapidly rising over the past 10 years

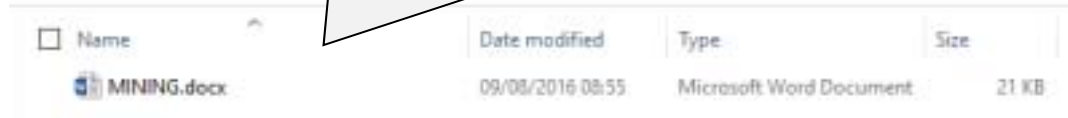
Name, Centre number, candidate number

Pie chart created, correct data for top 5 countries only	1 mark
Chart title <b>Top 5 Tin Mining Countries</b>	1 mark
Countries and values <u>only</u> on segments, no legend	1 mark
Largest segment pulled away from chart	1 mark
Chart positioned to left of bullets on <i>Tin Mining</i> slide	1 mark
Print 6 slides to page and <i>Tin Mining</i> as single, full page slide	1 mark

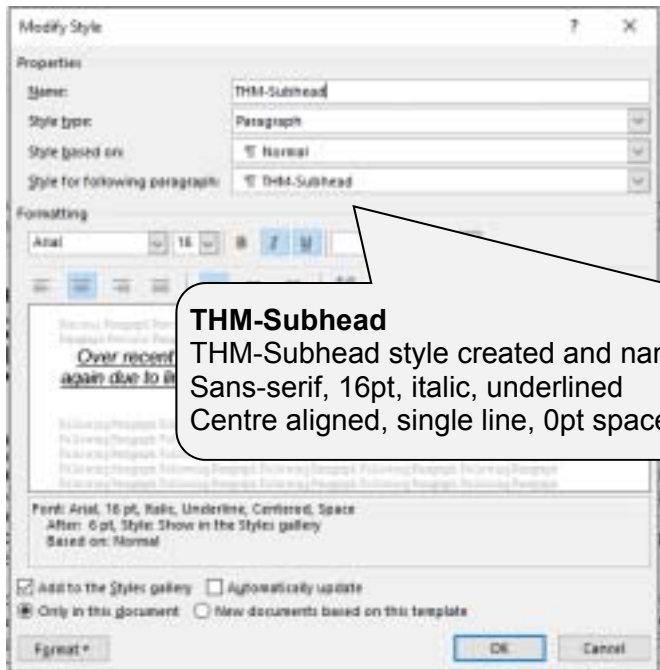
**Evidence Document**

Step 1 – **EVIDENCE 1** – File saved as MINING and evidence of file type

File saved as MINING correct file type 1 mark

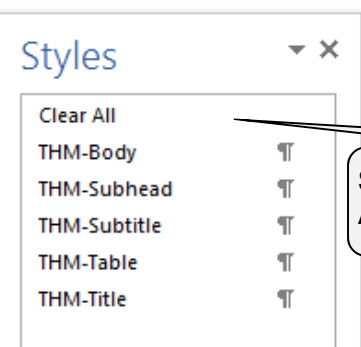


Step 4 – **EVIDENCE 2** – THM-Subhead style definition screen shot here:



**THM-Subhead**  
 THM-Subhead style created and named correctly 1 mark  
 Sans-serif, 16pt, italic, underlined 1 mark  
 Centre aligned, single line, 0pt space before, 6pt after (no other spacing set) 1 mark

Step 5 – **EVIDENCE 3** – Style list – styles correctly created, named and saved



**Style list**  
 At least 1 THM style other than THM-Subhead listed 1 mark

Step 22 - **EVIDENCE 4** – Database field structure screen shot here:

Field Name	Data Type
Title	Text
First_Name	Text
Cust_No	Text
Last_Name	Text
Addr1	Text
Town	Text
Postcode	Text
Pay_Type	Text
Memb_Data	Date/Time
Memb_Type	Text

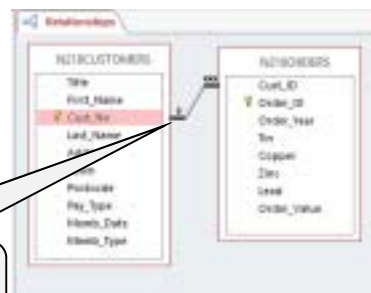
**DB Structure**

10 Field names as given, correct data types,  
 Cust\_No set as primary key 1 mark

Step 23 - **EVIDENCE 5** – Relationship between the two tables screen shot here:



OR



1 to Many relationship between  
*Cust\_No* and *Cust\_ID* fields 1 mark

Step 25 - **EVIDENCE 6** – Form

**Order Form**

Cust_ID	THM0044
Order_ID	7301
Order_Year	2017
Title	4
Copper	2
Zinc	1
Lead	0
Order_Value	€160

**Form**

Columnar form created, all (8) fields from orders table,  
 field headings left aligned, all data fully visible 1 mark  
 Appropriate title in the form header 1 mark  
 Form used to add new record – 100% accurate 1 mark

Step 26 – **EVIDENCE 7** – Calculated average formulae screen shot here:

Average order value	=Avg([Order_Value])
---------------------	---------------------

Database formula for calculated Average 1 mark

Step 27 – **EVIDENCE 8** – extract exported

Report exported as text file with evidence of file type 1 mark

Card payments in 2017.txt 09/08/2016 11:47 Text Document 6 KB

Step 29 – **EVIDENCE 9 – AO1**

The Customers table contains a primary key. Explain why the Last\_Name field would not be appropriate as a primary key:

- (a) data not unique/people may have the same last name 1 mark

When adding data to a field in the Customers table, it would be easier for a user to select data from a list.

Identify another advantage of selecting data from a list:

- (b) Speeds up data entry/reduces data entry errors 1 mark

Identify two fields that would be most suitable for setting up as a list selection

- (c) **Two** from: Pay\_Type  
Memb\_Type  
Title 2 marks

Step 30 – **EVIDENCE 10** – date field screen shot here:

Evidence of field for today's date, correct format dd-MMM-yy 1 mark

{ DATE \@ "dd-MMM-yy" \\* MERGEFORMAT }

Step 34 – **EVIDENCE 11** – Mail merge selection method screen shot here:

Mail Merge  
Evidence of automated filter to select Elite status 1 mark

Step 43 – **EVIDENCE 12**

Tawara are currently backing up their data onto a tape drive system. They are considering backing up onto the cloud.

- Evaluate in your own words the use of the cloud to back up data compared to their tape drive system. Recommend the most appropriate back up storage for Tawara Heritage Mining to use.

This is a comparison question (responses must include both cloud versus tape)

**Benefits of cloud**

- access to files and data anywhere at any time vs access to tape physical location
- reduced hardware/software costs as there is no hardware
- only pay for the storage you use, on a tape system you have to buy a brand new tape
- more fault tolerance – greater chances of recovering data from RAID/mirror cloud storage
- access to data on cloud is faster than tape as tape may need to come from off-site store/direct access to storage within the cloud vs sequential access on tape
- storage capacity may be unlimited on the cloud vs capacity of storage limited on tape

**Drawbacks of cloud**

- concerns over security of data/multiple copies, don't know where data is stored, tape systems are more secure
- ownership of data, data on tapes is fully owned by you
- need internet access to update/access files, tapes you don't/data restrictions through ISP
- pay monthly subscription to cloud storage provider/ongoing cost [max 3 marks]

Recommendation [1 mark]