

# Assessment Support Pack

## IT in Business: Spreadsheets — HP78

### 47 SCQF level 7

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# Introduction

This assessment support pack has been developed primarily for the purpose of the summative assessment of learners against the requirements of the unit and assessment standards. It must not be used for formative assessment.

The pack may also be used:

- ◆ to help centres develop an appropriate assessment for the unit
- ◆ as exemplification of the standard of performance expected of learners achieving the unit, ie as a benchmark
- ◆ to give teachers/lecturers/assessors new ideas
- ◆ as a staff development tool

**Note: if this pack is used for any of the above, the security and confidentiality of the pack must still be maintained as outlined below.**

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## General information

Before using this assessment support pack centres should read the relevant unit specification which details the standard of performance expected of learners. It is important to ensure that this assessment support pack is used in a context appropriate to the unit and, if applicable, the associated group award. A copy of the unit specification can be found on SQA's website **[www.sqa.org.uk](http://www.sqa.org.uk)**.

This assessment support pack supplements the section *Guidance on approaches to assessment of this unit* found in the unit specification's support notes. It provides an example of assessment that is valid, reliable and practicable. The assessment tasks correspond to the guidance contained in the unit specification. Centres must ensure the integrity and confidentiality of the assessment.

Although the content of this assessment support pack has been verified as a suitable assessment, centres should note that using it does not automatically guarantee successful external verification. It is the centre's responsibility to make sure that all the appropriate internal quality assurance procedures are satisfactorily followed. A valid and effective internal verification system should be in place.

## Guidance on content and context for this qualification

This assessment support pack supports the assessment of the unit IT in Business: Spreadsheets. Centres are required to develop the assessment in accordance with the validated unit specification.

## Opportunities for developing Core and other essential skills

### Numeracy at SCQF level 5

The general skill for the Using Number Core Skill component is 'Carry out calculations'. Outcome 1 requires learners to create a spreadsheet containing interlinking worksheets that is used to apply the rules of arithmetic formulas (BODMAS) and be familiar with the rules of conditional logic.

The other general skill for the 'Using Number' component is 'Work with statistical data'. Outcome 2 requires learners to apply several functions relating to statistical calculations, ie averages (mean, median, mode), ranges (largest number, smallest number, quantity of numbers in a range), standard deviation and frequency distribution.

The general skills for the 'Using Graphical Information' component are 'Read graphs and present information in graphical form'. Outcome 3 requires learners to prepare appropriate charts from spreadsheet data, extract relevant information from each chart type, evaluate the data and provide meaningful comment on its relevance and/or implications for the business.

### Critical Thinking at SCQF level 5

The general skill for the 'Critical Thinking' component is 'Analyse a situation or issue'. Outcome 1 requires learners to design and create a spreadsheet to meet the requirements of a business scenario, which may be a problem or customised tool to support a standard business process. Learners are required to analyse a scenario to find a spreadsheet solution for a business need, by identifying the component to include in the initial spreadsheet design, assessing the benefits and limitations of the proposed design, and by then testing the design. The finalised spreadsheet will provide reliable information about the scenario to managers within the business, who can then use it to make strategic or operational decisions about the business.

The achievement of this Unit gives automatic certification of *Numeracy* at SCQF level 5 and *Critical Thinking* at SCQF level 5.

## Related publications

Before using this assessment support pack centres might find it useful to look at some of our other publications, in particular:

- ◆ Guide to Assessment
- ◆ Introduction to Assessment Arrangements
- ◆ SQA's Quality Framework: a guide for centres

Details of these and other SQA publications are available on our website. Most publications can be downloaded free of charge from our website at **[www.sqa.org.uk](http://www.sqa.org.uk)**.

## Section 1 — How to generate assessment evidence

The Scottish Qualifications Authority's system of assessment measures the evidence of a learner's attainment of knowledge, understanding and skills against a defined criterion. Assessment must allow the learner to demonstrate competence at the level of the qualification and provide an opportunity for evidence of each learner's performance to be generated and assessed. This evidence must then be judged against the standards set out in the unit specification. To achieve a unit, learners must generate the evidence required in relation to all outcomes and knowledge and/or skills. This information is found in the statement of standards in the relevant unit specification.

This assessment support pack is consistent with the statement of standards for the IT in Business: Spreadsheets unit at SCQF level 7 and the following information applies when using it to generate evidence of learner achievement.

### Assessment

Examples of suggested evidence to be retained will always include the assessment, marking information and learner assessment records or class assessment records, as appropriate.

Assessment	Outcome covered	Evidence to be retained
Design and create a spreadsheet to meet the needs of a business. Data will also be presented in graphical format, with a written evaluation of the data produced.	<b>1</b> Design and create a spreadsheet to meet the needs of a business.  <b>3</b> Present spreadsheet data in graphical format and evaluate information.	All worksheets designed by learner with figures and formulae visible.
Apply statistical functions and evaluate the results.	<b>2</b> Apply statistical functions and present information in an appropriate format.  <b>3</b> Present spreadsheet data in graphical format and evaluate information.	Graphical information generated by Survey spreadsheet and learner's evaluation.

## Conditions of assessment

Assessment of this unit is undertaken in open-book conditions.

This is a project based assessment which builds on the content of each outcome. Centres can take an end loaded assessment approach or assess outcome by outcome.

While learners will design their own spreadsheet solution to a scenario for outcomes 1 and 3, statistical data is provided in the file Hotel Artisan Survey.xls for use in tasks for outcome 2.

This assessment is based on a single overall scenario. Part 1 and Part 2 can be assessed at the same time, however it is recommended that Part 1 is completed and passed prior to moving on to Part 2.

Problem solving is a critical aspect of this assessment, therefore learners are required to judge correctly the appropriate tool/feature/function required to complete/resolve each task/problem and to communicate their findings in a meaningful and accurate way. Critical thinking skills should be used to customise learners own solutions based on their own knowledge and understanding. While the work produced will be broadly similar it is not expected that every learner will produce the same layout. A range of layouts are acceptable; however, it is important that learners are efficient in their design.

Task 1 asks learners to use the Sparklines/Databars (or equivalent) function which is available in MS Excel (Sparklines are a feature of MS Excel 2013 and upwards — older version use Databars). It is recognised that not all centers may use Excel software. Where a different spreadsheet software package is used, the equivalent function may be applied. **The use of these functions is intended to support learners in analysing their data and therefore does not form part of the assessment decision (ie use of this function is not assessed) (see, Guidance on making an assessment decision).**

Task 10 asks the learners to produce a narrative based on their findings, this should not simply re-state the content of data/results/graphs in narrative form, it should say something meaningful in the context of the scenario (ie what may be the implications of the data for the business organisation in the assessment). The use of screenshots or the screen capture/snipping tool could be used to enhance this narrative.

To ensure authenticity of evidence, centres may wish to print evidence including the learner name in the footer of the worksheets. This is not included as a task for learners in the Assessment Support Pack — the assessment focuses on generating the evidence need to meet the evidence requirements. Centres must manage the authenticity of the assessment in accordance with their systems and procedures relating to plagiarism.

Authenticity of assessments via digital uploads can be secured by a digital certificate of authenticity when submitted through a VLE platform.

## Quality assurance

Centres should retain assessment evidence and internal verification records. Units are subject to external verification by SQA.

## Re-assessment

Time is allowed within units for assessment and re-assessment of outcomes. Where learners have not attained the standard necessary to achieve a particular outcome or outcomes, they should have the opportunity to be re-assessed. SQA's advice is that there should normally be one unit re-assessment opportunity, or in exceptional circumstances two. In some cases, learners may be required to resubmit original work which has been revised to take account of earlier weaknesses. In other cases, learners may be required to undertake a new assessment designed to assess the particular outcome(s) in which they were unsuccessful. In all cases, evidence from the original assessment should be used for formative purposes prior to re-assessment.

## Opportunities for e-assessment

For all modes of delivery, assessment conditions and quality assurance arrangements must ensure that the same standard is applied for all learners.

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [www.sqa.org.uk/e-assessment](http://www.sqa.org.uk/e-assessment).

## Equality and inclusion

The unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. Further advice can be found on our website <http://www.sqa.org.uk/assessmentarrangements>.



## Section 2 — Assessment

The assessment example(s) below can be used by centres, or alternatively centres can develop their own assessment.

### Assessment 1

#### Outcomes covered 1, 2 and 3

#### Assessment instructions

#### Background: Hotel Artisan

In 2012 the retro Hotel Artisan opened for business in Broughty Ferry, near Dundee. The hotel went from strength to strength and by the end of 2015 the owners decided that it was time to open a second hotel in the Leith area of Edinburgh. The Leith Artisan Hotel has also been a huge success and has found that customers are returning frequently and recommending the hotel to friends and family.

A review of the admin systems this year has shown that it is time to take a more joined up approach to the accounts and data management areas across both hotels.

With this in mind, and to start the change, the owners would like you to design a spreadsheet which will incorporate the data she needs to keep track of, but also give them an overview of how the joint net operating profit is looking for the entire company.

There is an amount of base information which is currently stored in a mixture of ways, some being in paper format and stored within various existing spreadsheets. This data has all been collated now and the base data information you have been provided with is detailed below:

Hotel Artisan, Broughty Ferry			Leith Artisan Hotel		
HAB9246755	Twin Room Rate	£89	LAH87656	Twin Room Rate	£99
HAB7786526	Double Room Rate	£109	LAH83373	Double Room Rate	£129
HAB7127689	King Size Room Rate	£149	LAH88223	King Size Room Rate	£169
HAB8875432	Family Room Rate	£179	LAH73388	Family Room Rate	£209

**Occupancy Data:** Number of rooms booked over the period are as follows

Hotel Artisan, Broughty Ferry					Leith Artisan Hotel				
2016	May	June	July	Aug	2016	May	June	July	Aug
Twin Room	16	16	17	18	Twin Room	22	19	19	20
Double Room	18	15	16	17	Double Room	20	23	24	23
King Size Room	12	18	18	15	King Size Room	21	23	23	24
Family Room	9	8	9	8	Family Room	17	17	18	17

### Expenses

Monthly Expenses	Hotel Artisan Broughty Ferry	Leith Artisan Hotel
Laundry Costs	£200	£200
Staff Costs — Permanent	£2,800	£3,100
Cleaning Costs — subcontracted	£1,600	£2,000
Overheads	£3,000	£4,000
Staff Bonus Incentive Company Wide	5%	

### Income: Hotel Artisan Broughty Ferry

Bar Income	May	June	July	August
Bar	£2,100	£2,158	£3,200	£3,250
Snacks	£300	£265	£280	£310
Bar Lunch	£790	£980	£767	£988
Bar Dinner	£990	£1,010	£987	£1,200

### Income: Leith Artisan Hotel

Bar Income	May	June	July	August
Bar	£1,798	£1,865	£3,098	£3,265
Snacks	£455	£638	£867	£769
Bar Lunch	£658	£623	£569	£1,100
Bar Dinner	£865	£963	£1,100	£1,900

## Independent Sales Income

To encourage and support local small businesses we decided to sell the hand crafted food items from a selection of these businesses. The total income from these sales is listed below. We receive 15% commission on these sales. This will be reviewed every 6 months for viability.

	May	June	July	Aug
Artisan Broughty Ferry Sales	£433	£267	£533	£256
Leith Sales	£245	£167	£231	£199
Commission on sales	15%			

## Part 1

It is your role to take the information provided and design a spreadsheet which will meet the brief.

To ensure efficiency of the resulting design you want to make use of your planning and layout skills. We are keen to future proof any spreadsheet created. With this in mind you should consider your design carefully. Should there be any updates made to the spreadsheet the changes should be as efficient as possible. It is suggested that you consider creating a separate data sheet within the workbook to contain all of the data provided.

### Task 1

- 1 A Staff bonus incentive of 5% will only be paid if Total Gross Income exceeds £8,000 per month. This bonus will only be paid on the amount of gross income in excess of £8,000 and applies separately to each hotel. Please use an appropriate function to calculate whether or not this bonus will be paid and if so, how much it will be in each hotel. This will be paid into an account and used at our annual away day in March of each year.
- 2 In each bar we have independent sales income, this comes from local suppliers who pay a commission on any sales on our premises. This is currently 15% and the total figures received should be detailed in the Bar Income section of the spreadsheet.

Information required for our management meetings are as follows:

- ◆ Total Income from Rooms per month
  - ◆ Total Bar Income
  - ◆ Gross Revenue
  - ◆ Total Expenses
  - ◆ Net Operating Profit
- 3 During the consultation regarding this spreadsheet it was noted that the Room Reference codes were different lengths. Please use a function to only use the first 5 characters and numbers in the reference given.
  - 4 Appropriate linking of all data should be used. Please name the cell containing the Bonus incentive percentage and the Independent Sales Commission rate appropriately and use this within your calculations.

- 5 As this data will be used and presented at our quarterly management meeting it is important that the final spreadsheet is visually pleasing. Please use your formatting skills to do this.

To assist data analysis later, please add *Sparklines* or *Databars* (according to the software you are using), to create a visual snapshot of current income and net profit in both hotels.

## **Task 2**

- 1 Please create a consolidated sheet which uses 3D referencing conventions to create an overall sheet. This will give the management team a clear view of the financial position at a strategic level for both hotels.
- 2 It is possible (though not confirmed) that there will be a % increase in the room rates at both hotels. In order to give the management team an idea of what the outcome will be if this change is implemented please add a calculation to the consolidated sheet to show what the total income from rooms would be should a 12% increase per month be put in place — assuming the same number of guests stay in each hotel.

## **Task 3**

- 1 Please create an appropriate chart which will show the combined room income for all room types for the period May–August.

## **Task 4**

- 1 Please create a macro which will allow the management team to print the data stored within the individual hotels, plus a copy showing the formula. This should all be completed in one macro.

## **Task 5**

- 1 In order to minimise the risk of accidental data corruption, can you please add protection to the spreadsheets containing information for our Broughty Ferry and Leith Hotels. All cells containing formula should be protected against editing. Please use the password HOTEL123 to achieve this.
- 2 Please also protect the entire consolidation sheet. Use the same password.

## Part 2

The management team of the Hotels have engaged an external consultant to collect the views of our customers. During the last year, each customer has been asked to complete an online survey following their stay with us. The consultant has provided us with the raw data from the survey (Hotel Artisan Survey.xls). Please access this file for the following tasks.

### Task 6

- 1 We can see the gender of each of our respondents but it would be interesting to have a summary showing how many males, females and others who responded from each hotel. Please produce this summary.
- 2 Please present the gender demographic data in a graphical format, include an appropriate heading and % break down of the data.

### Task 7

- 1 Please calculate the average score received in the Overall Score category.
- 2 Please provide the management team with results of the standard deviation calculation of the overall score.
- 3 With each of the other categories (CHECKIN, ROOM, RESTAURANT, etc.) we would like to know how many of the respondents awarded a 5 for these categories.

### Task 8

- 1 The management team would also like to see a frequency distribution table detailing the overall scores awarded by our customers.

### Task 9

- 1 In order to look at the data collected during the time of the accounts information we have, can you use a spreadsheet function to highlight the months May–August in Green.
- 2 Use a spreadsheet feature which will retain the column headings in place while scrolling through the data.

## Task 10

There is one member of the management team who does not have any experience of working with the type of statistical analysis data that a spreadsheet can provide. With this in mind, please evaluate the results of your calculations providing a written appraisal of the data that you have created. In this you should include:

- ◆ an explanation of the frequency distribution results
- ◆ an evaluation of the graphical representation of the gender demographics, suggesting any possible business improvement/expansion opportunities.
- ◆ an explanation of the standard deviation result

A screen capture tool could be used to show extracts from the spreadsheet to illustrate your findings in this short report.

