RECOGNISING ACHIEVEMENT

FUNCTIONAL SKILLS QUALIFICATION

PRINCIPAL EXAMINER'S REPORT

FUNCTIONAL SKILL	**Mathematics**	**LEVEL**	**1**
SESSION	**January**	**YEAR**	**2008**

1 Report on the work of candidates

General:

Some candidates made appropriate use of the planning sheets and used these to write down ideas that would, later, be organised in the response spaces of the question.

Some very good examples of sequenced solutions were seen, although many candidates found it difficult to organise their solutions. Good examples were seen of well-presented solutions, presenting logical calculations and avoiding essays.

Many candidates found problems annotating a solution to indicate their thinking. Essays were not required but "margin notes" indicating what was happening, Eg "area = …", "or one route is …"

Some candidates justified their solutions with reference to the calculations and decisions made but many found it difficult to do this.

Some candidates did not seem to have a calculator.

Most candidates attempted all the questions.

The total marks available for this assessment were 48. The pass mark for this assessment was 29.

Tasks:

1 Norman's Carpets.

- The best solutions showed two clear layouts of carpet, one with the 3m width aligned with the vertical dimension of the room and one with the horizontal dimension.
- Many candidates did not shade the waste carpet.
- A significant number of candidates managed to fit the carpet entirely within the room, believing that they needed to buy extra carpet to fill the gaps.
- The best solutions clearly calculated the areas of carpet required and then calculated the price.
- A few candidates realised that the horizontal length of carpet would be 4m whichever way the carpet was purchased. Hence, the most economical way was to buy the shortest available length. Where this was quantified the candidates received full marks.
- Many candidates did not realise that the price of the carpet depended upon area. Working of 4 x 20 = £80 and 3 x 20 = £60 were common and "Buy 3m" were common.

2 Perth Railway Timetable.

- Many candidates correctly chose the 1518 and many could work back 20 minutes to arrive at 1458. In the best cases this was annotated and a short statement that leaving at this time would just get Phil to the station.
- Some candidates chose the 1518 but then gave times before 1458 without justification. If the extra time was justified, then full marks were awarded.
- In part (b) the best solutions showed all of the train journey times, their average (mean or median) and then a comparison with the bus journey time. The calculation was followed by a short statement that compared the two results and, usually, concluded that the train was quicker. Few noted that the difference between the two times was minimal.
- Many candidates did not realise that trains did not always take the same time for the journey and wrote their conclusion based upon the first train only.
- A few candidates found the difference between the bus journey and two or three individual trains, but were unable to continue.
- Some of the less successful candidates took this as an opportunity to write an essay comparing the merits of train travel and road travel, often mentioning the likelihood of road works, delays etc. They did not score marks.

3 Deliveries.

- Most candidates were able to subtract the times and arrive at 8 hours but 9 hours was a common error.
- Many candidates had clearly not seen this type of table and were not able to correct the error. Frequently the candidates thought the distance from Manchester to Liverpool was 36 miles.
- It became apparent that candidates were unsure of this means of recording distances in part (c). Many were unable to extract correct figures from the table to find the distances for the route(s) they wrote down.
- The best solutions recorded ordered routes from Manchester to the three cities and returning to Manchester. These also showed individual distances and totals. Where these were incorrectly shown totals were followed through to award marks for "correct" conclusions.

- The most common errors were;
  - Not including Manchester in the route.
  - Looking up the distances incorrectly from the table.
  - Attempting only one route.
  - Looking up all distances from Manchester, no matter where the journey was from.
  - Not using any figures but simply assuming that all journeys involving the four cities must be the same.
  - Adding the journey distances incorrectly.

RECOGNISING ACHIEVEMENT

FUNCTIONAL SKILLS QUALIFICATION

PRINCIPAL EXAMINER'S REPORT

FUNCTIONAL SKILL	**Mathematics**	**LEVEL**	**2**
SESSION	**January**	**YEAR**	**2008**

1 Report on the work of candidates

General:

Generally, candidates attempted all 3 tasks albeit with a variety of success. The format of the assessment caused no problems but it seemed obvious that the majority of the candidates made no attempt to use the planning sheet to plan work. Instead it was used as working space and in a considerable minority of cases, the sheet was the only place where any work could be identified that could be marked.

The total marks available for this assessment were 51. The pass mark for this assessment was 29.

Tasks:

Task 1 part (a)

Many candidates made unrealistic assumptions about the usage of the MP3 player – responses using 12 hours a day, presumably influenced by the time a disposable battery would last, or 24 hours a day were not uncommon. The majority of the candidates making these assumptions also ignored the fact that the disposable batteries had to be bought in packs of 4 and instead calculated the price for a single battery of £1.073, (no rounding taking place), and a total price for the 6 month period of £193.05 or £386.10 which was, of course, considerably more than the cost of the rechargeable batteries. A few candidates stated that each month had 31 days in it – a not unreasonable assumption to make but a little worrying when stated as a fact. A large minority of candidates made reference to the fact that the rechargeable batteries would incur a recharging cost and said they were unable to calculate this and one or two also included reference to environmental issues – the costs of disposal for example.

Task 1 part (b)

This part was well answered – few candidates experienced any difficulties with it and the majority of candidates scored full marks. The albums chosen were frequently indicated on the table rather than as a separate list.

Task 2

Many responses to the first question indicated a lack of understanding of the concept of 'night' – for these candidates 'night' finished at midnight and there was no consideration of the hours between midnight and 5am, 6am or 7am. Some candidates considered that the second part of the question – the likelihood that a baby would be a girl – was also based on an assumption of night but did manage to draw conclusions consistent with their data. Most however did consider the 24 hour period for their analysis and successfully calculated the fraction of the babies born that were female. No candidate expressed the probability of the baby being a girl as a percentage, a frequent analysis was based on the total number of girls born and no candidate made any reference to the sample size. As with the second question some candidates compared the weights of boy and girl babies over the 'night' period – however that was defined. The majority of candidates who were successful in this part, based their analysis on calculations of the mean weights but a few just compared the maximum and minimum weights of the boys with those of the girls.
One candidate stated the task was impossible to answer as there was no indication of what was meant by night.

Task 3 part (a)

Many candidates recognised that Kay would have to travel on the Tuesday evening and gave valid reasons for this, (interestingly many candidates also preferred the 1655 train from Inverness so that Kay, as a single woman, wouldn't be faced with a late arrival in Edinburgh). Departure and arrival times were generally calculated successfully.

Task 3 part (b)

Frequent responses here included the time to reach the hotel and not just the arrival time in Edinburgh. However many candidates only calculated the times for the 0900 flight – they were clearly influenced by Kay's need to arrive at the hotel rather than considering the comparison between plane and train across the day - although the flight times for all 3 flights were the same there was no reference to this in the analysis seen. Many candidates also calculated the travelling time for all the trains.

2 Guidance for Centres

- At level 1, candidates are expected to be familiar with the mathematical skills and concepts expected at GCSE grades G to D (up to National Curriculum Level 5), Adult Numeracy Level 1 or Key Skills Level 1 Part A. At level 2, these expectations equate to GCSE grade C up to National Curriculum Level 6/7), Adult Numeracy Level 2 or Key Skills Level 2 Part A.
- Centres need to recognise that the 'scaffolding' which are such a feature of existing assessments in Mathematics will not be a feature of Functional Skills. Candidates need to be prepared for open ended tasks which do not have a single specific 'right' answer and in which they must clearly show how they obtained their answers in order to score the higher marks.
- Candidates need to be aware that they will have to select data that is required to solve the task and discard other data.
- Candidates should;
  - Ensure that units, for example, centimetres and metres are correctly used.
  - Refer specifically to their results in drawing conclusions.
  - Realise that calculations and not essays are required when answering the questions.