AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

General Certificate of Secondary Education

Mathematics (Modular) 4302
Specification B

Module 1 Foundation Tier   43001F

Report on the Examination

2007 examination - March series

General

This paper appeared to be accessible to its target group. A wide range of marks was seen with a large number of candidates gaining high marks (>30) and few gaining less than 10. The majority of candidates attempted all the questions with similar marks being gained for each section. There was no evidence of lack of time to complete the paper. Probability questions were generally answered using the correct notation. Some candidates did not have a protractor or failed to use a ruler for graph questions.

Topics that were well done included:
- dual bar chart
- pictograms
- simple probability
- drawing a scatter diagram.

Topics which candidates found difficult included:
- probability scale
- pie charts
- mean of grouped data
- interpretation of a time series graph.

Question 1

This question was generally answered well by the majority of candidates. There were some inaccuracies in the reading of the scale and a few candidates gave the total number of children in part (d) instead of adults. In part (b) the major error was comparing the total number of children and adults for the week rather than each session.

Question 2

The interpretation in part (a) caused problems for weaker candidates. However there were a large number of candidates who gained some marks for this part. The majority of candidates at this tier were unable or not equipped to draw and measure angles correctly. They lost marks in part (b) but generally gained some credit for drawing 5 sectors in correct size order and labelling their pie chart correctly.

Question 3

There were many candidates who gained full marks for this question but a small minority worked in whole numbers throughout so failed to gain any marks.

Question 4

A large majority of these Foundation tier candidates found this question beyond their capabilities. Calculating the mean from a frequency distribution is rarely answered well and the inclusion of grouped data caused problems for all but the strongest candidates. Although some correct answers were seen, there were many incorrect responses using the class boundaries instead of the midpoints. Some candidates did know that midpoints should be used but simply added up the midpoints and divided by 50 or by 5. The most frequent error was to give $50 \div 5 = 10$ for the answer.

Question 5

This question proved to be the most accessible on the paper with the majority of candidates gaining full marks.

Question 6

Responses to this question were generally very good, with a large number of fully correct answers. The ordering of the numbers caused some problems for candidates when finding the median.

Question 7

The majority of candidates gained some credit for at least one correct probability marked on the scale. A large number marked event C at zero instead of 1 and many were confused by event B - the probability of spinning a 4 or a 5. A few candidates failed to label the probabilities with letters.

Question 8

This question was very poorly answered. Few gained both marks in part (a), often reading the wrong years or giving their answer in pounds. In part (b) the majority of candidates attempted to answer this part by working out the increases from 2000 to 2005. Widespread misreading of the vertical scale or poor arithmetic usually led to these candidates failing to score for this part. Those candidates who compared the differences between the Youth wage and the Adult wage in 2000 with 2005 or gave clear explanations about the widening gap between the two graphs were more successful.

Question 9

Generally the scatter diagram points were plotted correctly but many candidates lost the mark for the line of best fit because of poorly drawn freehand lines. Some candidates still join up the points as their line of best fit. Nearly all candidates gained the mark in part (c) as rounding to an integer was accepted, given the context of the question. In part (d) many candidates omitted to describe the strength as well as the type of correlation. Answers to part (e) highlighted candidates' lack of understanding of the danger of extrapolation. A large number of these candidates stated that the graph was not big enough to read off at 15.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the http://www.aqa.org.uk/over/stat.html page of the AQA Website.