



## **Principal Assessor Report 2007**

**Assessment Panel:**

**Mathematics**

**Qualification area**

**Subject(s) and Level(s)  
Included in this report**

**Mathematics Standard Grade**

## **Comments on candidate performance**

### **General comments**

#### **Foundation**

This paper was viewed as a fair and accessible examination. The majority of the cohort attempted every question, with performances in both KU and RE perceived by markers as ranging from 'excellent' to 'fair'. It was noted that very few candidates scored extremely low marks and a significant number scored very highly in both elements. Candidates were well prepared and continue to explain working thus accessing partial marks. There was a slight increase in the percentage of candidates gaining a grade 5 and slight reductions in the percentage of grades 6 and 7.

#### **General**

This was also perceived by markers as a fair, well balanced paper, accessible to all but the under prepared candidates. Candidate performance was of a similar standard to previous years although it was noted that in some centres there was a lack of knowledge of areas of the course which had not been examined in recent years. These questions will be highlighted below.

Both KU and RE elements remain consistent with performance in previous years.

#### **Credit**

Markers felt this paper to be of a similar standard to previous years with questions being fair and accessible. As previously, the KU element performed better than RE. Candidates mostly attempted every question with working being shown.

### **Areas in which candidates performed well**

#### **Foundation**

Paper 1 was well attempted with the following questions being particularly well done.

Question 1- Basic number work.

Question 4- Shape.

Question 8- Identify a bearing from a radar screen.

The following questions were most successful in Paper 2.

Question 2- Combinations.

Question 5- Coordinate diagram.

Question 6(a) - Extend a number pattern.

Question 9- Interpretation of a line graph.

Question 11- Leisure centre prices.

## **General**

In Paper 1,

- Question 1(a) - Decimal subtraction.
- 1(b) - Multiplication by a multiple of ten.
- Question 5- Temperature difference.
- Question 6- Number pattern and formula.
- Question 8- Percentage discount.
- Question 9(a) - Probability.

In Paper 2,

- Question 3- Money (Vet fees).
- Question 5(a) - Algebraic simplification.
- Question 7- Perimeter of a semi circle.

## **Credit**

In Paper 1,

- Question 1- Decimal calculation.
- Question 3- Probability.
- Question 6- Equation of a straight line.
- Question 11- Simultaneous equations.

In Paper 2,

- Question 1- Appreciation.
- Question 3(a) - Calculation of mean and standard deviation.
- Question 6- Sine rule.
- Question 12(a)- Volume of a cylinder.

## **Areas which candidates found demanding**

### **Foundation**

In Paper 1,

- Question 6- Conversion of 135 minutes to hours and minutes.
- Question 7(c) – Using scale of map and drawing a conclusion.  
The difficulty was in both conversion of 1km to 1000m and in stating a reason for answer.

In Paper 2,

- Question 6(b)- Ongoing difficulty in stating a rule for a number pattern.
- Question 7- Minority of candidates were confused over definitions of gross pay, net pay and deductions.
- Question 10- Lack of understanding of the mode.
- Question 15- Problem solving in an unfamiliar context.
- Question 16(b)- Confusion over surface area, volume and total edge length.

## **General**

In Paper 1,

- Question 1(c)- Whole number division by a single digit. Answer required working to tenths column and many candidates either stated a remainder or put the remainder in the tenths column of their answer.
- Question 1(d)- Multiplication of a whole number and a mixed number.
- Question 4- Quarter turn symmetry. Only one correct rotation shown.
- Question 7- Some candidates had clearly never learned scattergraphs.
- Question 9(b)- Extended probability problem.

In Paper 2,

- Question 1- Time conversion for use in distance, speed, time calculation.
- Question 10(a)- Area of compound shape. Difficulty in finding appropriate dimensions for the triangle.
- Question 11- Similar right angled triangles.

## **Credit**

In Paper 1,

- Question 8- Similar triangles. Simplification of scale factor would have eased subsequent working.
- Question 10- Variation
- Question 12- Chord of a circle. Problem was in finding appropriate right angled triangle.

In Paper 2,

- Question 2- Quadratic formula. Ongoing difficulty in substituting into formula.
- Question 3(b)- Lack of understanding of the meaning of standard deviation inhibits comparison of standard deviations from two sets of data.
- Question 9- Ratio.
- Question 11(a) - Mathematical proof.
- Question 13- Quadratic graph. Lack of knowledge that, as expression was already factorised, roots could be easily read off and mid point between roots then found. Very poorly done question.

## **Advice to centres for preparation of future candidates**

Congratulations to centres for presenting an increased percentage of successful candidates at grade 5 in Foundation.

At Foundation level, candidates are performing better in both the calculator and the non calculator papers and the hard work supporting this success is commended. The ongoing areas of difficulty shown by candidates as listed above should however be addressed. Time, metric units, area and volume remain challenging for many of our candidates.

At General level, very good results are being achieved in the money and number questions. Candidates clearly understand what they have been taught and can apply their knowledge under examination conditions. Further practice is required in time and shape topics where candidates are less confident.

Credit candidates continue to perform well in number, volume, calculation of mean and standard deviation, sine rule and simultaneous equations. Improvements could be made on the understanding of standard deviation, the quadratic function (both factorisation and the graph) and in mathematical proofs. Continued improvement in non calculator work is evident though constant practice must be maintained at all levels. Finally, it is requested that every candidate is given access to a calculator, which he or she knows how to use, to support greater success in the papers, which allow the use of a calculator.

## Statistical information: update on Courses

Number of resulted entries in 2006	53,776
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Number of resulted entries in 2007	53,973
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## Statistical Information: Performance of candidates

### Distribution of overall awards

Grade 1	17.1%
Grade 2	12.4%
Grade 3	21.1%
Grade 4	16.3%
Grade 5	22.5%
Grade 6	8.0%
Grade 7	2.5%
No award	0.1%

### Grade boundaries for each assessable element in the subject included in the report

Assessable Element	Credit Max Mark	Grade Boundaries		General Max Mark	Grade Boundaries		Foundation Max Mark	Grade Boundaries	
		1	2		3	4		5	6
<b>KU</b>	<b>45</b>	<b>35</b>	<b>23</b>	<b>40</b>	<b>28</b>	<b>18</b>	<b>40</b>	<b>27</b>	<b>19</b>
<b>RE</b>	<b>45</b>	<b>27</b>	<b>17</b>	<b>40</b>	<b>27</b>	<b>19</b>	<b>40</b>	<b>26</b>	<b>18</b>