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Principal Examiner Feedback

January 2017

Pearson Edexcel Level 1 Award in
Number and Measure (ANM10)
Paper 1A + 1B

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Contents

1. Introduction	3
2. Examiner Report – Level 1 Section A	3
3. Examiner Report – Level 1 Section B	9
4. Grade Boundaries	11

Edexcel Award in Number and Measure (ANM10) Principal Examiner Feedback – Level 1

Introduction

This exam paper was found to be relatively straight forward and gave a good range of marks for the award of a pass.

Though many students showed their working there were still far too many cases when it was missing and caused some students to lose marks, especially in section B.

Almost all students had the necessary equipment which was pleasing. However, there were some blank responses to Q8 on Section A, indicating there were some students without equipment and some students drew their lines freehand.

Judging by the number of non-calculator methods shown for some of the solutions in Section A, the calculator allowed section a significant number of students did not seem to have a calculator or if they did they chose not to use it.

The students continue to mix up their methods when finding perimeter and area of rectangles (Section B, Q8) and the volume of cuboids (Section A, Q10).

The design of this paper was consistent with previous papers and performance of students on this paper was consistent with that expected when the paper was set, so that a pass mark of about 66% of the total mark could be considered as showing proficiency in number and Measure Level 1.

Reports on Individual Questions – Section A

Question 1

The majority of students were able to gain full marks for this question, requiring them to use their calculator to carry out three calculations.

Question 2

Most students were able to correctly state the number of minutes in 3 hours and 21 minutes, but a few still believe that there are 100 minutes in an hour.

For part (b), where students were asked to give the metric unit for the weight of crisps and the amount of medicine needed for a child, many correct answers were seen, particularly in part (b)(i).

A few students thought that an actual amount was required, however, answers such as 30g for the weight of a packet of crisps and 10 ml for the amount of medicine needed for a child, were condoned.

Some students had little idea of what was needed in part (ii) and gave answers such as units, tsp, kg for the amount of medicine needed for a child.

Question 3

Most students were able to correctly state which day of the week the 27th March is. For the date three weeks after the 21st March there were many students who thought that there were 30 days in March and gave the incorrect answer of 12th April, for which 1 mark was allowed.

Others gave an incorrect date as they added too few or too many weeks on; as long as evidence of 31 days in March were written in the table, 1 mark was allowed.

It was surprising how many students got mixed up with the month and gave the answer as 11th March rather than the correct 11th April; an M1 was allowed in this case.

Students must be reminded to show working on the calendar in this type of question as they can pick up method marks from this.

Question 4

This question had a mixed response.

For part (a), there were several correct answers. Those students who responded incorrectly, thought that 457 rounded to 400, and was also 460 to the nearest 100.

For part (b), writing $\frac{2}{5}$ was a challenge for many students with a popular answer being 2.5.

Finding $\frac{5}{9}$ of 450, was found to be challenging with many students dividing by 5 and multiplying by 9. Other mistakes were to think that $\frac{5}{9}$ was equal to a fraction such as $\frac{6}{10}$ and to use the incorrect fraction to find that fraction of 450.

Finding 20% of 525 often seemed to be done without the use of the calculator and students came up with statements such as 10% = 52 and then doubled this to find 20%, but as they gave an incorrect answer and did not show the method used, could not gain any marks.

Question 5

A well understood question with almost all students scoring marks. The most common mistakes were to ignore the multiple amounts but two marks were allowed for the answer of £6.83 for a correct follow through for this error.

Some students found the cost of 3 bars of chocolate rather than 4 and some found dealing with some units in pence and some in pounds difficult to deal with.

It was clear that some students did not use a calculator for this question and some gave completely unrealistic answers which one would hope they would refuse to pay in a shop.

Question 6

Although several students were able to correctly draw the hands on the clock in part (a), there were many that failed to do so correctly. The mistakes that were made included drawing the hands in the correct places, but of the wrong lengths or both of equal lengths and showing an incorrect time of quarter past five rather than quarter to five.

In part (b), a large number of students subtracted 20 25 from 22 10 to find 1 85 then converted this to 2 hours 25 minutes. Some did $22 - 20$ and $25 - 10$, giving the answer as 2 hours 15 minutes. The most successful students were those that added the component parts by counting on 35 minutes and then 1 hour 10 minutes and combined these two parts.

Question 7

Students generally gained the mark in part (a) for correctly reading the value as 137.

In part (b), many students realised the scale was one space = 2 units and were able to correctly place the arrow; a few incorrectly read the scale and indicated the arrow at 514 or 528.

Question 8

In part (a), measuring an obtuse angle was often found challenging with many students giving the incorrect answer of 55° , i.e. reading the wrong scale on their protractor. Blank responses led one to suspect the student was without a protractor.

In part (b), almost all students with a ruler were able to draw a line of the correct length.

Question 9

This question was very well done by the majority.

The mistake seen in part (a) was to forget to label the bars.

For part (c) it was most common to see no working at all and while most students gave the correct answer and so scored full marks, an answer that may have been nearly correct gained no marks unless method was shown.

Question 10

This volume of a cuboid question was not well answered as there were far too many students who simply added the three lengths rather than multiplying them whilst a smaller number tried to find the surface area of some of the faces.

Question 11

Those who knew how to find an area usually gained full marks, but many incorrect responses were seen. Several students wasted a lot of time finding unmarked sides and adding the sides to find the perimeter. Some knew that area involved multiplying and so just multiplied all 4 given lengths together.

Question 12

Part (a) was quite well answered with many students giving a correct multiple of 18; often 36 or 324.

For part (b) many students did not know how to find a common factor of 24 and 64 and it was commonly incorrect.

For part (c) we found that several students had forgotten the meaning of a prime number and gave a square number or 14, the number between 11 and 17.

Question 13

This question was often not fully correct.

Some students knew they needed to divide £8.55 by 24 to find the unit cost of a pencil, but could then not give the cost to the nearest penny.

Evidence of the correct division gained 1 mark and provided evidence of the correct unrounded answer was seen, 2 marks were allowed. Few students were able to correctly give the answer as 36p or £0.36, common incorrect answers not having units or were 35p or £0.35, truncating rather than rounding.

There were a good number of students who did the division the wrong way round, showing no understanding of how to find a unitary cost.

Question 14

Students find it difficult to remember unit conversions and in part (a) there was a number of incorrect answers such as $5000 \text{ grams} = 50 \text{ kg}$.

Part (b), changing to centimetres to millimetres was more often correct than part (a).

For part (c), where students had to add and then subtract amounts of metres and centimetres, it was fairly common to see them all added, and students must be reminded to take care to read signs correctly.

Those that changed all units to centimetres were often very successful, as were those who showed firstly working with the metres and then the centimetres.

There were a number of students who showed a lack of understanding of the units by saying, for example, $3 \text{ metres } 62 \text{ cm} = 3 + 62 = 65$.

Question 15

This question was very poorly done with the majority of incorrect responses being due to students adding the 'new' and 'previous' readings together; these gained no marks.

Those finding the difference between readings sometimes gave this as their answer, for which a mark was gained.

Those students that got as far as the correct figures of 86.62 generally remembered units and benefitted from full marks.

Section B

Question 1

Though this question was straightforward many students made simple calculation errors. The method in part (a) was mostly correct though many students added the numbers in the units column correctly to 21 and then wrote the 2 in the units position and 'carried' the 1; providing other working was correct they could benefit from a method mark.

In part (b), the most common wrong answer was 4.74 where students did not position a 0 in the hundredths column and just put down the 4 that was to be taken away from the hundredths figure.

Part (c) had a mixed response, with many students not showing a full method and an incorrect answer and so not benefitting from any method marks.

Part (d) was quite well done, with the method of $500 \times 6 + 30 \times 6 + 4 \times 6$ being the most popular. If students did not gain full marks for this part, they often benefitted from a method mark as they generally showed their working.

Question 2

This question that tested fractions had mixed responses with candidates making errors in all parts.

In part (a), common incorrect answers were $\frac{7}{22}$ and $\frac{7}{121}$ whilst in (b)(i) many students thought the smallest fraction was the one with the lowest denominator ($\frac{1}{2}$).

Part (b)(ii) was poorly done with many different combinations of fractions from the list seen as being equivalent.

Question 3

A successful question for most students, with few incorrect answers seen.

Question 4

The vast majority of students could put the integers and percentages in the correct ascending order.

For part (c), many students found it difficult to write two decimals from the list between 2.6 and 2.8. The problem seemed to be understanding how decimals with 1 and 2 decimal places could be ordered. Some students also gave the decimal 2.7 as the decimal between 2.6 and 2.8; unfortunately, it was not in the list.

Question 5

This negative number question with number line was very well understood and answered.

Question 6

For part (a), many students were able to state the correct fraction of the shape shaded, although a few gave the amount shaded as a fraction of the amount not shaded.

In part (b), several students were able to correctly able to simplify the fraction.

Many students for part (c) had forgotten that $\frac{3}{4} = 75\%$, some giving 0.75 and some completely incorrect percentages. There was also a mixed response to writing 0.3 as a fraction, with $\frac{3}{100}$ and $\frac{0.3}{10}$ seen as incorrect answers.

Question 7

A well understood question that was answered well by most students. Interestingly all the distractors were selected by some students

Question 8

Students often make mistakes with perimeter and area and this proved to be the same in this paper. Many students mistook perimeter for area and vice versa. When finding the area, those students that showed a correct product with an incorrect answer, e.g. $9 \times 5 = 54$ gained a method mark; an answer alone of 54 gained no marks – so the message to students, is to show clear working.

Summary

- Writing numbers to various degrees of accuracy, e.g. nearest ten, hundred and costs to the nearest penny.
- Calculating utility bills from given information particularly the need to subtract a 'previous' reading from a 'new' reading to find number of units used.
- Dealing with time e.g. finding the difference between two times, the number of days in a month and finding a date in the future or past.
- Working out fractions and percentages of quantities
- Calculation of perimeters, areas of rectangles and volumes of cuboids need attention with students still mixing up perimeter and area of a rectangle in particular.
- Students must be reminded to always show their working.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>

