

Principal Examiner Feedback

Summer 2014

Pearson Edexcel Level 2 Award
In Number and Measure (ANM20)
Paper 2A+2B

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Edexcel Award in Number and Measure (ANM20)

Principal Examiner Feedback – Level 2

Introduction

Section A is a calculator paper. It was evident from some work that students were attempting the paper without the aid of a calculator. This is not advisable, since calculation errors will cost marks.

Generally the standard of work on this paper was encouraging, but there were too many cases where students failed to show their working out. On these occasions an incorrect answer would lead to the loss of all marks for that question.

Students need to take particular care with their numbers. Some figures written by students were either ambiguous or illegible. Equally it was not uncommon to see students mis-copying answers from working space onto answer lines.

Working out percentages was a general weakness, and was the manipulation of fractions, and use of formulae involving π

Reports on Individual Questions

Section A

Question 1

Well answered, with only a few mis-counting along the scale to give an incorrect (though nearly correct) answer.

Question 2

Part (a) was well answered.

In part (b) the majority failed to gain the full marks, which was quite surprising. Most were able to undertake the calculation, but few then went on to round correctly, some leaving it as a truncated decimal, or unrounded.

Question 3

This question was well answered with few errors.

Question 4

Many spotted the answer from the pie chart and gave the correct answer in this question.

Question 5

There remains some weakness generally in working out percentages. Putting aside those who undertake a division, the problem then relates to the use of "100" (some times forgotten, or 10 uses) or if using a multiplier, stating that incorrectly such as 0.6 or 0.06. Too many spoil their answer by automatically going on to either add or take away their percentage calculation from the given amount.

Question 6

This question was well answered by those who had calculators. The main error in (c) was in giving 3^3 as 9

Question 7

Centres must make clear to students taking this exam that compound interest will not be tested, but simple interest will. Far too many students launched into a compound interest calculation. Of those who attempted to work out the simple interest, attempts were sometimes spoilt by an incorrect percentage calculation, or by adding/ taking away from the original amount at the end, rather than simply stating the interest.

Question 8

Very few multiplied instead of dividing, resulting in many correct answers.

Question 9

Very few divided instead of multiplying resulting in many correct answers.

Question 10

Another well answered question that was only spoilt by too many attempting to find the surface area.

Question 11

A significant number of students failed to divide their calculations into the normal rate of pay, and the overtime rate of pay, resulting in 30 hours at the overtime rate, and sometime even 30 hours at standard rate and 30 hours at overtime rate. Use of 1.5 in working out overtime was not usually a problem. Most also understood the need to subtract the two deductions. Working out was usually shown sufficient for some method marks to be given to those not reaching the final correct answer.

Question 12

Most students understood they needed to divide the shape into 2 or 3 rectangles, or take a rectangle away from a larger one. But in doing so many students were unable to find the correct dimensions for their rectangle parts, frequently randomly attributing the dimensions given, even after the division was shown on the diagram. There were too many cases of perimeter calculations.

Question 13

This question was generally done well by students.

Question 14

Again too many attempts to find surface area in this question even though the volume was asked for. Of those who did attempt the volume, the $\frac{1}{2}$ was not always accounted for in their calculations. Only a minority were able to give the correct units to their answer, many either leaving it off completely, or stating incorrectly cm^2 .

Question 15

This question was not well answered by students. There were too many area calculations with r^2 . Some students worked out the perimeter of the whole circle without halving, some used the diameter instead of the radius, some failed to add on the 8cm to their area.

Question 16

This question was not well answered by students. Although most students realised that they needed to find the difference (20), few then knew how to convert this into a percentage figure.

Question 17

The two main methods of finding the LCM were shown, that is by listing multiples of the two numbers, and establishing the route through factor trees. Whilst the first method usually led to the correct answer (if the multiples were correct), many who drew factor trees did not understand how to use them to find the LCM.

Question 18

There were many errors on the way to finding the answer to this problem. First, the formula for finding the area has to be recalled, and used instead of finding the circumference. Substitution has to be done correctly; some left their answer as just the area. Some added the circle area to that of the rectangle area, but most knew that this final subtraction was required.

Section B

Question 1

This question was answered well by students.

Question 2

In part (a) poor presentation hinders some students, who wrote the "1" under the "7". Some students chose to add the three decimals, ignoring the subtraction sign. Generally arithmetic was poor, and many did not know how to subtract the 0.001 from either the 2.37, the 5, or even 7.37

In part (b) there was more success with the only common error being the absence of, or misplacement of the decimal point in the answer.

Question 3

Students need to understand that just identifying the biggest is insufficient, as it needs to be supported through evidence of working or calculation. This most did, and gained the full marks.

Question 4

Fractions remain a weakness for most.

In part (a) it was common to see the unnecessary step of writing the mixed numbers as top heavy fractions, which then meant they had to handle large numbers. Most understood the need to work on the denominators, but poor arithmetic spoilt many solutions.

Part (b) was better answered, though some adopted an incorrect approach of again working with denominators, though this did not prevent them from getting to a correct answer.

An inability to simplify an otherwise correct answer was not penalised since the question did not require simplification.

Question 5

Here simplification was required, and was done badly. The weakest students failed to convert the amounts to the same money; those to write in terms of £ frequently wrote 40p incorrect as 0.04

It was not uncommon to find students trying to write their answer as a percentage.

Question 7

Again simplification caused problems for many, but most understood how to write a ratio, some students however spoilt this process by not writing their numbers the correct way around.

Question 7

Usually a well answered question, however many students failed to spot that correct monetary units were required and that a numerical answer alone was insufficient.

Question 8

Many errors in calculating the percentage. Having got an answer, it was not uncommon to find this added back on to the £500, or left as £100. Those using a multiple approach usually wrote this as 0.02 rather than 0.2, or 0.08 instead of 0.8

Question 9

Not well answered. Some spotted it as $\frac{1}{5}$ and wrote 20%, but those who did not see this relationship failed to make progress.

Question 10

Most students used 0.5 instead of 0.49, but usually by incorrectly halving the answer rather than doubling it. It was not uncommon to find the other two numbers rounded just to the nearest whole number. This then meant that a long multiplication was required which was not an estimate; the numbers had to be rounded further to ease the calculation. Some failed to even realise that an estimate was needed, and set out a traditionally approach to find an accurate answer, which gained no credit.

Question 11

A well answered question. The only common error was to adopt an incorrect method of dividing 80 by 2 and by 3

Question 12

Fractions remain a weakness for most. As with the previous question it was common to see the unnecessary step of writing the mixed numbers as top heavy fractions, which then meant they had to handle large numbers. Most understood the need to work on the denominators, but poor arithmetic spoilt many solutions.

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>

