Examiners' Report<br>Principal Examiner Feedback

## January 2023

Pearson Edexcel Awards
In Number and Measure (ANM10) Paper 1A

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

## General Comments

Section A is designed to be completed with the aid of a calculator, but the sight of several non-calculator methods would suggest that not all candidates had a calculator. For example, this was apparent in question 1 and question 7. Similarly, a lack of mathematical equipment and being unable to use it correctly was evident due to the number of students that were unable to measure the angle of $50^{\circ}$

A lack of working for questions that were almost correct caused a lot of students to lose method marks; in particular, for question 6 on Section B we sometimes saw no method at all.

Students continue to mix up methods, especially for area and perimeter of a rectangle and volume of a cuboid. Though it was encouraging that more students were able to find the perimeter of a rectangle than in the previous series.

It was encouraging that, for the Level 1 papers, there were fewer instances of misreading and miswriting numbers and that most candidates attempted a significant number of questions in both sections.

## COMMENTS ON INDIVIDUAL QUESTIONS

## Section A

## Question 1

Nearly all students were able to achieve these 3 marks by correctly using their calculator to find the answers to these calculations. In part (a) an obvious lack of calculator caused issues as students tried to do the calculation without a calculator. In part (b) we saw mostly correct answers with the occasional incorrect answer due to not using a calculator or having no or a wrongly placed decimal point. In part (c) we also saw mostly correct answers with the most common incorrect answer being 62.3 (from dividing by 3 instead of 0.3 ).

## Question 2

In part (a) most were able to convert 15\% to a decimal with the most common stated incorrect answer being 1.5 For part (b) if students had been able to use the calculator facility for fractions this should have been easy. If students knew what to do they generally gained two marks with one mark for a correct method but an incorrect answer being rarely given. For the vast majority of those that gained no marks in this question, it was because no attempt was made, though a significant number of candidates divided the 785 by the numerator and multiplied by the denominator, obtaining an incorrect answer of 1962.5 Surprisingly, in part (c), students found finding $35 \%$ of 820 harder than finding a fraction of an amount. Those who attempted the question but didn't achieve any marks usually divided the 820 by 100 to find $10 \%$ or divided the 820 by 5 to find $5 \%$ or added the wrong parts to form $35 \%$. There were a number of students who simply added or subtracted the 35 to or from the 820 or divided by 35 or just multiplied by 35 without dividing by 100

## Question 3

Those giving an answer in 24 hour format were often successful, or had one of the two elements incorrect to score one mark. Those aiming for 2.35 pm often had at least two of the three required elements, but 3.35, 7.13 were common incorrect answers and 2.35 a common partially correct answer.

## Question 4

Part (a) was quite well answered but a variety of errors were frequently seen e.g. forgetting to give units, not knowing how many grams in a kilogram, treating kilograms in the same way as grams when adding/subtracting or adding all three weights. In parts (b) and (c) students were not always competent at changing units in the metric system, with both changing 73000 centimetres into metres and changing 8 litres to millilitres causing difficulties for a significant number of students .

## Question 5

Many students gained at least one mark. Most students clearly knew that they could divide 80 by 7 to find that there were 11 full weeks but often then wrote 11 weeks and 4 days as they were unsure how to deal with the 0.4285 element from dividing the 80 by 7 . Some candidates used a method of counting up in 7 s to at least 77 to gain 1 mark. However, it was common for candidates to write 12 weeks and 4 days from counting to the first multiple of 7 that goes beyond 80

## Question 6

Most were able to tell us that Tuesday was the day for the 25th May 2021. The date two weeks before the $10^{\text {th }}$ May was more difficult. Problems included not knowing how many days are in April, and not knowing which month comes before May. Students should note that they can use the calendar to count back - and in this case if they had shown us that the 30th was on the Friday before the $1^{\text {st }}$ then we would have awarded them a method mark. A significant number of students just wrote a day rather than a date.

## Question 7

This was generally well answered. Most students knew the method they needed to use but some made numerical errors, which could have been avoided by using a calculator. There seemed still fewer candidates struggling with units this session and usually the pence were converted to pounds correctly. Some students only found the total for the bill and not the change, showing that they had not read the question properly. Some did not show the subtraction at all which meant that they lost an extra mark if their subtraction was incorrect.

## Question 8

This was generally well answered. Students often multiplied the dimensions together to give 1400 as a final answer. Those who did not gain full marks usually added the dimensions together and some made attempts at calculating the surface area or partial surface area (i.e. finding the area of 2 or 3 faces and adding them together). Students who did not gain any marks often added the dimensions to get an incorrect answer of 37

## Question 9

Students tend to be particularly good at recognising numbers on number scales and in part (a), where the notches on the scale where each worth 1 unit, about $90 \%$ of students gained full marks. Part (b) was slightly less well answered, but correct by about $80 \%$ of pupils, where some found the scale of one notch equal to 2 units a bit more difficult.

## Question 10

This question on area was poorly done. In part (a) it was rare to see a correct measurement for the missing side with the most common incorrect answer being 9 cm . Others left this blank. In part (b), some students were able to give the area of one of the rectangles, and this was awarded M1. Most students could not complete the full area calculation; only a small minority gained full marks for this question. Calculations given were often linked to the perimeter or involved multiplying the lengths of all the sides together and some worked out areas which were overlapping

## Question 11

Many students correctly worked out $3.81 / 8=0.476 \ldots$. and gained the method mark, some continued on to give a correct answer 48 p to gain full marks. However, a significant number of students either gave a final answer of 0.48 p, 47p or 50p. These answers obtained from not converting their answer from pounds into pence, incorrect rounding, or rounding to the nearest 10p respectively. The most common mistake was by those who divided 8 by 3.81 and got an answer of 2.09

## Question 12

Parts (a) and (b) were well answered. In part (c) many students correctly worked out the answer of 15 minutes, however a significant number obtained an answer of 55 minutes from failing to recognise that there are 60 minutes in an hour and hence gained no marks. A significant number of candidates gave an answer of 16 minutes, likely to be due to counting 08:48 itself as 1 minute passed instead of counting 1 minute at 08:49

## Question 13

Most students were able to gain the first 2 marks available for correctly reading from the bar chart. If a student didn't get the first two marks, it was usually due to leaving it blank. The odd mistake was made such as stating the frequency rather than the type of activity or the two activities with the highest frequency rather than the same frequency. Part (c) was less well answered with the most common incorrect answer being 7 or 2 from stating the frequency of one of the activities.

## Question 14

For part (a) if students had been able to use the calculator facility for fractions this should have been easy. The most common incorrect answer was 10/95, as the candidate multiplied both the numerator and the denominator by 5. In part (b) most were able to convert 9/10 to a decimal with the most common reason for an award of zero marks was that the response was left blank.

## Question 15

Part (a) was answered well with the majority of the students gaining this mark, with part (b) proving to be more challenging for students In part (c) students often lost both marks because they did not show their method or for failing to add on the number of dollars for $£ 10$ or $£ 5$. Very few candidates chose to use the multiplication $1.15 \times 66$

## Question 16

There have been many utility bills in the past, so this question should not have been a surprise to students. We did see a good performance from a fair number but also some students who showed little understanding of what was needed. The numbers were often added, subtracted, multiplied or divided seemingly at random. Some candidates used 30 in their calculation, presumably as they were trying to consider the number of days in a month whilst some divided by 4 because it was a quarterly bill. Many students used long multiplication instead of their calculators causing unnecessary errors with accuracy. A few students got as far as 145.52 but then subtracted instead of adding the 16.70

## Summary

Based on their performance on this paper, students are offered the following advice:

- Read questions very carefully and ensure the answer is what is asked for.
- Use the calculator when allowed to do so, i.e. on section A.
- Show all working clearly even on the calculator section.
- Learn conversions between metric units of length, weight and capacity.
- Learn the calculations needed for area, perimeter and volume, and know not to get them mixed up.
- Spend more time revising fractions and decimals and various bills, eg phone bills, gas bills, electricity bills etc.
- Learn how to do simple approximating questions.

