Examiners' Report
Principal Examiner Feedback

January 2019

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

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Principal Examiner Feedback – Level 1

Introduction

This exam paper was accessible to many and gave a good range of marks for the award of a pass.

There was evidence to suggest students lost marks due to misreading answers from their calculator on section A.

Students continue to mix up methods, especially for area and perimeter of a rectangle and volume of a cuboid.

Students must read questions carefully so that they give the answer that is required.

Students must make sure they bring mathematical equipment to the examination and use it correctly as there was evidence that some were unable to measure an angle or draw a line of a given length of because of this.

Report on Individual Questions.

Section A

Question 1

Many students did well on all three parts of this question requiring the use of a calculator to do some calculations. The only mistakes appeared to be misreading and writing the answer from their calculator incorrectly.

Question 2

There was a very high success rate for this question requiring students to read from a table.

Parts (a) and (b) were done particularly well, but it must be noted that when we ask 'which one of the friends has walked the furthest?' we are requiring the name of a person rather than the furthest distance walked.

Part (c) was the least well done as some students did not realise a difference between two numbers was required and they tended to add the 2 values rather than subtract. Some students were nearly correct and as most did not show working were unable to benefit from a method mark for correct working.

Question 3

Writing the time, given that it is afternoon, was not well done. Some students were able to pick up one mark for 2:40 but failed to gain full marks because they did not give 2:40 pm showing the realisation that it was a time after noon.

1440 was perfectly acceptable for full marks and seen on several occasions, as was 1440 pm which we condoned on the basis of a student understanding that it was afternoon. Many students thought the time was 8:13 or 8:14 or 8:15 as they read the hands of the clock the wrong way round – we had hoped that being told it was afternoon may have helped them with this, but it didn't appear to.

Question 4

Students generally found it easier to find 30% of 280 than to find $\frac{3}{8}$ of 280.

The method most seen was to find 10% of 280 and then to add this together 3 times. Those students who just wrote 10% = 2.8, 2.8 + 2.8 + 2.8 gained no marks. If the student had written 10% = 280 ÷ 10 = 2.8, 2.8 + 2.8 + 2.8 they would have gained a method mark for showing the calculation for 10%.

Finding $\frac{3}{8}$ of 280 was quite challenging. Multiplication by 8 and division by 3 and other muddled working showed that this type of question is challenging for the students at level 1

Question 5

This 'shopping bill' and change question was well answered by several students, who in many cases showed their working or gained correct results. Some gave an answer close to the correct one but with no working or a few odd figures on the page, so we could not award any marks as there was no evidence of correct working; it must be stressed to students that for any questions with more than one mark they are running a risk of gaining no marks if they make a slight error and have not shown any working.

A handful of students did not read the question thoroughly enough and made careless mistakes such as working out the cost of 1 of each item rather than the given amount of each item; if such students worked correctly they could gain special case marks. Some students forgot to work out the change after finding the total cost.

Question 6

In this question students were given 5 numbers to choose from and had to write down a factor of 30, a prime number and a multiple of 6. A few students ignored the table of numbers and wrote their own; they gained no marks. Most students were able to give the factor and the multiple, but it was rare to see the prime number correct.

Question 7

This question on area was poorly done. It was rare to see a correct measurement for the missing side with students giving seemingly random numbers with no reason.

In part (b), some students were able to give the area of one of the rectangles, 4×14 or 56 being the most popular and this was awarded M1. Most students could not complete the full area calculation and even if they did they rarely gave the units; 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.

Question 8

For part (a) nearly all students were able to write the number in words as a number in figures.

In (b) writing 473 to the nearest ten was not well done, with many giving 460, 480 or 500 as well as other seemingly random numbers.

Part (c), writing 5.67 to one decimal place was a challenging question for many. Most frequently seen was moving the decimal point one place to the right (multiplying the number by 10).

Question 9

For part (a) all but a very few students were able to state that the 27th April was a Saturday and so gained the mark.

Part (b) was also quite well done, although some students didn't read the question carefully enough and added on 2 weeks rather than three. Some students were too vague with the date and for example, 'Tuesday ' was awarded no marks.

Students should be persuaded to fill in dates on the calendar as we awarded a mark for this done correctly, and in particular not putting 31st April. Most commonly students got the number of days in a month incorrect and 31 and 29 were used frequently.

Question 10

It was strange that more students were able to find 30% of 280 for question 4(b) than were able to find 2% of £3200. It seems that the context of 'interest on money invested' made the question more inaccessible. Students should practice percentages in a variety of contexts.

Question 11

Reading a thermometer correctly was straightforward to a fair number of students but part (b) which was reading a negative number was poorly done by some.

The students read the temperature as 3 below −10 rather than 3 above −10
Finding the difference between −2°C and 6°C had a most common answer of 4°C.

Question 12

Finding the cost of a unit item to the nearest penny was not as straightforward to all students as we felt it might be. Most did a division sum, but for some, it was done the wrong way round. Those who showed the correct calculation gained a method mark and another method mark for an unrounded answer. However it was common to see the answer as 0.37p rather than 37p. Any value shown and then rounded to the nearest penny was worthy of a method mark, but many students did not benefit from this as they failed to show their working.

Question 13

It was disappointing how many students were unable to find the volume of a cuboid, with a significant number adding the dimensions together instead of multiplying them. There were also a good number of blank responses for this question.

Question 14

Students could generally give the metric unit used to give the amount of flour needed to make a cake as a kilogram or gram. However, they were unable to give the imperial unit used to give the height of a person with m or cm being very popular incorrect answers; although not answered well, the question was answered better than in previous series probably due to the height of a person being a more familiar context for an imperial measurement.

Question 15

Part (a) of this question asked for 80 days to be written as a number of weeks and days, students were very good at identifying 11 weeks, but the number of days was often incorrect. Interpreting 11.42857… as meaning 11 weeks and 4 days to the nearest day was commonly seen. Other correct attempts showed adding up in 7's but those that were incorrect often had spurious working and frequently involved months.

In part (b) a lot of students did not give units with their answer which lost one of the two marks. Quite a few students added all the lengths or found 3m 76 cm + 4m 63cm – 2m + 37cm. 107 was a common incorrect answer. This was sometimes seen as 3 + 76 + 4 + 63 − 2 − 37 and sometimes as separate metres and centimetre calculations giving 5m 102cm followed by 5 + 102 = 107. The former scored no marks but the latter scored 1 mark.

5m 102 cm was another common incorrect answer which scored 1 mark.
An incorrect answer of 9m 176cm scored no marks, but we gave a special case 1 mark for 10 m 76 cm where a student added all the measurements but dealt with the units correctly.

Question 16

Although this was a familiar topic for the bill question a significant number of students struggled with knowing what to do with the numbers. Some found the number of calls and texts above the number of free ones, but then went on to divide by the 5p and 10p costs. Others added instead of subtracting and some multiplied everything together.

A common error when finding the cost of the calls was using 0.5 instead of 0.05 for 5p. A handful of students ignored the 'free' calls and texts but were able to pick up marks for using the numbers given multiplied by cost per text or call. Some students gave completely unrealistic answers and even negative values were seen; it should be noted that when writing papers, we try to use figures that are realistic for costs, so a monthly phone bill for thousands of pounds should be questioned.

Section B

Question 1

Part (a) of this question asked students to put 5 amounts of money in correct ascending order. This was commonly incorrect because students thought that 204p and 289p were smaller than £1.89, £2.17 and £2.43. Students must realise that a combination of amounts with different units need to be all looked at in the same units and just because some are given as pence it does not mean they are smaller than those given in pounds.

Putting decimal numbers in order of size appeared to be a challenging concept for the students taking this paper in part (b) and many did not gain the mark for this part of the question. They think that 2.8 is smaller than 2.17 because they incorrectly consider ordering 8 and 17

In part (c) almost all students were able to correctly order the 5 percentages.

In part (d) Many students taking this paper did not know that $\frac{1}{4}$ is equal to 25% and instead gave answers such as 1.4%, 14%, 4%

Question 2

The majority of students were able to correctly set up the addition sum and gain at least 1 mark for showing a correct attempt to add all 3 numbers with evidence of carrying in part (a) of this question. Incorrect attempts included lining up the columns of numbers incorrectly and in effect adding 2517 + 7500 + 1240 rather than 2517 + 75 + 124, adding without use of columns and making mistakes and adding each number several times rather than just once.

Out of the addition, subtraction and multiplication sums, the subtraction sum was the least well done in part (b). Students find 'borrowing' a difficult concept and some borrowed from the 7 and the 2 of 27. Some students lined up 27 under the tenths and hundredths column of 14.87 and many when subtracting 0.87 from 0 came up with 0.87. Some students used an 'adding on' method and often were quite successful, however some incorrectly wrote that to get from 0.87 to 1 you needed to add on 0.17

In part (c) the multiplication of a 3 digit number by 6 was quite well done. We saw many methods, including the traditionally set up sum and various 'box' methods. We condoned one multiplication error and those using a 'box method' often multiplied 700 and 6 incorrectly and gained an answer such as 4900. A few students incorrectly multiplied each number by 6 and added these giving
$7\times6 + 5\times6 + 3\times6 = 90$

Question 3

The majority of students were able to give the correct fraction for the part of the shape that was shaded in part (a). A few gave the fraction unshaded and gained no marks.

In part (b) the question on subtraction of fractions was generally correct.
Few students were able to give a fraction equivalent to $\frac{2}{5}$ in part (c) with a variety of incorrect answers with no apparent reasoning.

In part (d) students often did not know how to write the fraction in its simplest form with many blank responses and also random responses.

Question 4

In part (a) most students were able to give the correct answer to 8 × 7 with the few incorrect answers being close to the correct number such as 57, or 48

In part (b) the majority of students were able to divide by 100, but the most common mistake was to divide by 1000 rather than 100 as the student decided to remove all the zeros.

In part (c) almost all students were able to multiply 93 by 1000 correctly.

In part (d) writing a decimal (0.7) as a fraction was very challenging for the students sitting this paper, with almost all giving the incorrect answer.

$\frac{1}{7}$ was the most frequently seen answer.

Question 5

Students were generally able to get a correct answer for this estimation question but all of the 5 options were seen. The method used by several students was to add 4 lots of £1.95 and find the nearest answer to this. The method we had hoped for was to round £1.95 to £2 and multiply £2 by 4 to get £8. Students should practise efficient methods to answer estimation questions.

Question 6

In part (a) measuring an obtuse angle was quite challenging for many students with 55° rather than 125° being the most popular answer.

Nearly all students were able to draw a straight line measuring 8 cm in part (b). The few incorrect responses usually had a line measuring 7 cm, 8.5 cm or 9 cm.

Question 7

Most students were able to use the number line to work out both of the calculations. The few incorrect responses were usually one out, showing they had probably counted the number itself rather than moving on one.

Question 8

For those who knew what perimeter meant, part (a) was a straightforward question and 2 marks were gained. A few knew the method but were challenged by the measurement of 4.5 cm. Several students showed a method to calculate the area of the rectangle.

In part (b) changing 9 metres into centimetres was poorly done, with students dividing by powers of 10 or multiplying by numbers other than 100.

Question 9

Students, on the whole, found the bar chart a very accessible question and frequently gained full marks.

Part (c) did cause some problems and an answer that was nearly correct but with no working gained no marks. A correct sum seen, gained a method mark.

Students must be reminded to show all working.

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.

- Spend time practising efficient methods to estimate answers.

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