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Examiners' Report
Principal Examiner Feedback

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Pearson Edexcel Awards In Number and Measure (ANM20) Paper 2B

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Edexcel Awards: Number & Measure January 2023

Report on Paper ANM20 (Level 2)

Introduction

There were many high quality candidates for the examination this session, resulting in some very good performances across the questions. In particular candidates showed a considerable increase in their ability to process questions involving fractions.

Candidates need to be aware that working out needs to be shown. In cases where an incorrect answer is given without any working no marks can be awarded, even such working might be implied (but not shown). In particular, questions 9, 12, 14 and 16 in Section A required several different stages or working. There were a few occasions where several methods were shown by a candidate; unless made clear by the candidate which is to be accepted for marking, no marks can be given.

Overall there was a significant improvement this series in the way that candidates set out their work.

Section A is designed to be completed with the aid of a calculator, but the sight of a significant number of non-calculator methods would suggest that not all candidates had a calculator.

There were fewer occasions where attempts were made that resembled trial and improvement approaches.

It was encouraging to find that most candidates attempted nearly every question, in both sections.

Report on Individual Questions

SECTION B

Question 1

This was a well-answered question.

Question 2

In this question the common errors were related to poor arithmetical processing, but there were fewer examples of poor place value that in previous series, for this type of question.

In part (a) it was disappointing to see many failing to add up 35s correctly. When doing long division, it is frequently useful to start by working out a times table for the divisor. The most common error was in failing to work out the remainder of 12 after the first division of 35.

In part (b) place value was an issue for only a small number of candidates. Rather the most common error was in failing to decompose across all numbers; many were able to provide an answer with all but one digit correct, 2932.4 being a common incorrect answer.

Question 3

Many started by writing down the ratio 24 : 64 Most gave a correct answer, but some were unable to cancel 24 : 64 down fully. Centres need to be aware that just giving the numbers 24 and 64 is insufficient for the first mark since they need to be written as a ratio.

Question 4

All candidates had to do was to multiply across, but for a significant minority their memory of times tables failed them. Some lost the mark by attempting to cancel, even though this was not possible with the given numbers.

Question 5

This was a well answered question. The main errors were in writing 72.

Question 6

Fewer than usual did the incorrect operations of 40 ÷ 2 and 40 ÷ 3; most understood that a division of 5 was needed and went on to give the correct answer.

Question 7

In answering part (a) it is important candidates realise that in these types of question their final answer needs to be supported by working. Credit was sometimes given for an incorrect conclusion linked to their two answers given, as long as a correct method was shown for at least one of these two answers. Whilst many candidates realised that a division of 7 or 3 was needed, this was not always done accurately. Overall this question was better attempted than in previous series.

In part (b) most started by writing 80/200 but many then failed to cancel fully to get the final answer.

Question 8

A well answered question. Most candidates realised that a division by 9 was needed, and most then went on to multiply their answer by 7 (or subtracted from 630), arriving at the correct answer.

Question 9

Those who knew how to work out a percentage usually gained some credit. Many found 10% then doubled to give 20%. Some just left their answer as the percentage figure (17) and a small number spoilt their answer by subtracting it from 85. Overall a question that proved to be a good discriminator and provided a good range of marks.

Question 10

Candidates who attempted to work this out accurately gained no marks; the question asked for an estimate, and there must therefore be evidence of estimation before any marks are awarded. Sadly there were far more instances this season of candidates just attempting to work it all out accurately. Those who chose appropriate numbers to use as estimates gained some credit, though this did not include those who just truncated to 0.48 to 1. Although a mark was given for using 19 and 31, the next step involved a long multiplication calculation

hence not considered appropriate as an estimation method. Few spotted the easy division of 0.5 into 20 or 30, and preferred to work out a figure for the numerator first; more candidates than previously realised that a division of 0.5 was equivalent to multiplying by 2. Some calculations were again spoilt by poor arithmetic.

Question 11

Overall this fraction question was better attempted than in previous series, with many gaining full marks in both parts. Part (a) was attempted more successfully than part (b).

In part (a) there were many attempts to find a common denominator, but occasionally these were not matched with the correct numerators. Some preferred to write their fractions as improper fractions first, which could still have led to the correct answer, but caused them more work with larger numbers, typically $\frac{48}{128}+\frac{40}{128}$ or even $\frac{176}{128}+\frac{47}{128}$ but since they did not have to simplify their calculations, leaving an answer as $\frac{27}{16}$ (or any other equivalent fraction) was quite acceptable. A few forgot to involve the whole numbers at all.

In part (b) the key was of course first writing the fractions as top-heavy fractions. Those who merely showed 1 × 3 and 3 × 7 or equivalent gained no marks. But it was encouraging to see many who wrote $\frac{10}{3}\times\frac{8}{7}$ or equivalent. Some decided to use common denominators, usually writing $\frac{70}{21}\times\frac{24}{21}$, which could still lead to the correct answer, but then involved more work and larger numbers to deal with. Some ignored the whole numbers completely. It was disappointing to see a minority failing to write their answers as a simplified mixed number as requested, which meant they lost the final mark.

Concluding guidance notes for centres:

1. Candidates need to spend more time ensuring they read the fine detail of the question to avoid giving answers that do not answer the question, and to give answers in the form required, such as simplified if asked for.

2. Working always needs to be shown and needs to be presented legibly and in an organised way on the page, sufficient that the order of the process of solution is clear.

3. Candidates need to ensure they arrive to take the examination with all necessary equipment, which includes a calculator for Section A.

4. Basic processes such as how to find a percentage need to be learned, whilst for section B basic numeracy such as addition/subtraction needs practice, and whilst times tables need to be learned.

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