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Examiners' Report  
Principal Examiner Feedback

Summer 2022

Pearson Edexcel iPrimary Lower Secondary  
Year 6 Mathematics

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**Summer 2022 Principal Examiner's Report**  
**iPrimary Lower Secondary Curriculum**  
**JMA11 Paper 01**

Students were able to make a good attempt at the majority of the questions across this paper. It is pleasing to see that centres continue to encourage students to show their working in the space provided on the examination paper, thus allowing for the award of method marks where possible, however there are still students who risk losing method marks by not using the working space provided.

Section A, as always, is a 20-question multiple choice section, each question worth 1 mark. Students continued to do well on this section, especially on the accessible, more straight forward questions, with students scoring well throughout.

Section B is made up of 1- and 2-mark questions; the final question being a 3-mark problem solving question. Students who show their working are able to pick up more marks for their method. Those who do not show working sometimes miss out on awardable marks following arithmetic errors, as the working for these errors could not be followed. As with the International GCSE, it will become more common to see marks only awarded on some questions if working is seen.

**Question 21**

It was pleasing that the majority of students were able to gain at least one of the marks on this opening question.

Part (a) required students to convert between analogue and digital time, which was answered extremely well. Part (b) required students to add on a given time, crossing the hour, this was less successful than part (a) but still well answered.

**Question 22**

Many students were able to achieve some marks here. Though on the whole it was not well answered by most. Students struggled with accuracy when designing their tally chart forgetting to include labels, only including two columns instead of three and missing one piece of data, usually hockey. Other common errors were not being able to use a 'five bar gate'; drawing five single marks and a sixth through their fifth or attempts to use various graphs or pictograms which scored no marks.

**Question 23**

Although many correct reflections were seen, too often students reflected the shape in the y axis, this was surprising as the axis had been labelled on the diagram for the students. Another common error was to translate the shape rather than reflect it. Accuracy of the shape drawn by students was good and plenty of students used a ruler, although they were not penalised for accurate free hand drawings. Some students drew shapes in 2 or all 3 of the quadrants with no indication as to their final answer, therefore losing the mark.

**Question 24**

It was surprising to see only just over 50% of the students knowing how many days were in the months of March, April and May and being able to add these up.

**Question 25**

Ordering fractions, decimals and percentages was a challenging question for some students at this level; not many showed conversions to decimals or percentages, which might have increased their chance of success. A common error was to get  $\frac{6}{10}$  and 0.7 the wrong way around in the list. Some students sorted the numbers correctly but did not order them from lowest to highest.

**Question 26**

Many students were able to answer this ratio question correctly, with over 60% of students scoring full marks. Where responses were not correct students knew to divide 45 but not realising it had to be by 5, giving a variety of incorrect results. Surprisingly few students were awarded just the method mark and quite a number of students made no attempt at the question.

**Question 27**

Pleasingly, the majority of students were able to add and subtract two decimals with different decimal places. It was clear that centres had taken on board previous feedback to work with numbers with differing decimal places.

**Question 28**

Whilst many students were able to gain marks for working with angles, a surprising amount were unsuccessful.

Part (a) required students to work out the size of the missing angle, many students worked with  $360^\circ$  not taking on board that AB was a straight line and they could work immediately with  $180 - 37$  to reach  $143^\circ$

Part (b) required the labelled angle to be measured. Centres must encourage the correct use of a protractor. Too many students clearly used the incorrect scale, offering the obtuse value. Another common incorrect answer was to realise that their measurement was  $3^\circ$  away from 50 and adding it on rather than taking it away from 50 giving the answer  $53^\circ$

### **Question 29**

Students were very capable of finding one equivalent fraction in (i), with almost all students attempting the question gaining the mark. However, it proved much more difficult to find three equivalent fractions, having been given some of the information in (ii).

Most gained at least one mark for a pair of equivalent fractions, the second mark for three equivalent fractions was less common. Some students thought this was a question on sequences. Of those who completed the question correctly, the majority chose a correct set of fractions which were equivalent to  $\frac{3}{4}$ .

### **Question 30**

Algebra is still proving a very difficult concept for many students at this level; however, this series has proved more successful.

Students completed the number sequence in part (a) extremely well. However, finding the 25<sup>th</sup> term of the given  $n^{\text{th}}$  term in part (b) was much more challenging.

Part (c) required the students to expand and simplify an expression. This has become a common algebra question and it was pleasing to see a higher success rate this series than previously with over 50% of students gaining at least one mark.

Solving a simple equation, in part (d), was completed by most students, with the majority successfully gaining the mark.

### **Question 31**

Finding the volume of a cuboid was well answered, with many students gaining full marks, knowing that they needed to multiply the three given values (7cm x 2cm x 3cm). As usual the most common errors seen were to find the sum of the three lengths, or to calculate areas of some or all of the faces.

### **Question 32**

This is now a common question for this specification, and it is encouraging to see that most students are confident with using either Long or Short division methods and that working is clearly being shown. The majority of students who attempted this question scored at least 1 mark, with fully correct answers seen over 50% of the time. There are, however, still students giving the correct answer with no working – these students failed to score any marks.

### **Question 33**

It is encouraging to see so many students successfully gaining marks here. A common question on this specification with students more often solving long multiplication by displaying their working clearly. There were still some students who do not understand the process needed and made place value errors scoring no marks. Sadly, there were also quite a few students who made multiplication or arithmetic errors whilst completing this question, but most managed to score one mark for the correct method and place value. It is extremely pleasing to see few candidates being awarded no marks due to providing a correct answer without showing working.

### **Question 34:**

The majority of students found working with percentages challenging. More were able to successfully find 55% of 360 in part (a). However, there were few successful attempts at finding the percentage of empty seats in the sports stadium in part (b). The students did not realise that they needed to calculate  $\frac{8000}{32000}$  and simplify it. This is an area centres will do well to reinforce with students going forward.

### **Question 35**

It was pleasing to see more students gaining marks for understanding how to find the range and median of a set of data. The students have clearly benefitted from centres having taken on board the suggestion to practice the different processes to find the mean, median and range of data sets, as these are common questions at all levels.

### **Question 36**

Interpreting the pie chart proved challenging for most students with many unable to access the question and scoring no marks. Of the students who were able to interact with this question, most gained both marks understanding that the two given right angles, for green and blue, represented half of the pie chart; hence the 3 equal sections for orange, red and yellow were shared between 12.

### **Question 37**

Students always find the problem-solving question difficult, and this was no exception. This was a very challenging question for many students. It was very common to see blank pages with no attempt to get started. The most successful students used an area approach and found the area of one layer, managing to gain one mark. Very few students were able to continue with the question, not understanding how to find the total area available or required.

Problem solving at this stage is a difficult skill to master and students will only improve at these types of questions if they are exposed to situations where they have to apply their mathematical knowledge to solve a particular problem.

### **Summary**

- It was good to see students continuing to show their working on the paper, something which centres need to continue to encourage.
- **Presenting and Interpreting Data** - centres need to be aware that students might be asked to display, present and interpret data in a variety of forms. They should ensure that all of the different methods highlighted in the specification and scheme objectives are taught
- **Problem Solving** - centres need to encourage students to break down problems; to identify what information they are given, what they are being asked to find and what steps they might need to take
- **Percentages** - was an area this series that demonstrated more reinforcement was needed from centres

