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Principal Examiner Feedback

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GCSE Mathematics (2381)

Foundation Paper (5383F/09)

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1. PRINCIPAL EXAMINER'S REPORT – FOUNDATION PAPER 9

1.1. GENERAL COMMENTS

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

1.1.2. Knowledge of terms associated with a circle was a weakness, but the use of basic algebra was considered to be a slight improvement on previous series.

1.1.3. There was no improvement, however, in the amount of working out being presented. Too many candidates appeared happy to just fill the answer lines, without any supportive working.

1.2. REPORT ON INDIVIDUAL QUESTIONS

1.2.1. Question 1

This was a well attempted question by many candidates. Some demonstrated addition of the three percentages, but undertook this calculation incorrectly. A few arrived at an answer to this addition, but then failed to take their answer away from 100.

1.2.2. Question 2

That you had to find how many times the £2.75 went into £50 was evident to nearly all. The methods used ranged from a straight division, to adding up successive lots of £2.75, and successive subtraction from £50. The latter two methods were rarely successful due to poor arithmetic processing. Some had difficulty dealing with the recurring decimal on their calculators after performing the division.

1.2.3. Question 3

Candidates struggled to gain marks in this question, with a significant number choosing not to attempt the question. In part (a) diameter was the most common response. In part (b) a response of "segment" was more common than sector.

1.2.4. Question 4

In part (a) many gave the incorrect answer of $3d$., but many did realise the correct answer was d^3. There were many different answers to this question, largely confusing attempts as to how the letter could be combined, failure to multiply the 3 and the 2, and incorrect inclusion of the "x". $5pr$ was a common incorrect answer.

1.2.5. Question 5

Some candidates failed to completely understand the term “expression”, and instead wanted to give a formula. This invalidated their answer if they chose to use the given letter as “$n=$”. Most knew they had to write something with n, but a variety of operations were seen.

For part (b) many candidates ignored their answer to (a) and started again. This was a sensible approach when their answer to (a) was wrong, since there were many instances of incorrect (a), but correct (b). However, use of an incorrect expression for (a) to generate their answer to (b) could still gain them the mark in (b).

In part (b) a common incorrect answer was n-7, for many after having gained the mark in part (a).

1.2.6. Question 6

This was not a well answered question. Estimates of the height of a man were certainly varied, sometimes totally unrealistic. Most candidates appeared to understand how to use their height to produce an estimate for the height of the tree. This was sometimes done numerically, sometimes evidenced by marks alongside the tree. Too many candidates showed heights as 5.5, 6.0, etc.; this was possibly because they were working in feet, rather than in metres as the question requested.

1.2.7. Question 7

Any question in context requires the candidate to think about the practical aspects and translation of the problem into mathematical operations. This question was not particularly well answered. Frequently candidates mixed up the two fruits, calculating 1.34x4 instead of x3. Sometimes the division by 4 occurred too early, or again this was a division by 3 instead. In cases of a wrong answer the absence of any working out hindered the examiner in awarding marks.

1.2.8. Question 8

Although the difference was put in brackets, too many candidates attempted to square individual numbers. But for many the most common error after finding the difference was in failing to square, or instead doubling. Many candidates did not know how to round in part (b). Truncation or rounding was almost arbitrary, without any referenced to the “1 decimal place”. Many follow-through opportunities were therefore lost.

1.2.9. Question 9

Some candidates failed to attempt the question, but overall there were some good attempts, far better than in previous sessions. There was a variety of responses. Those who drew a table of values gained the most marks, since they at least could then gain marks for plotting a graph, even if the values in their table were wrong. There were a few attempts to draw the line without a table. A correct line drawn without any table of values could still gain full marks, and there were a few examples of this. It was frustrating to see a significant minority of candidates plot the points, but not join them to make a graph.

1.2.10. Question 10

Candidates are always weak at explaining themselves. When asked to give reasons for geometrical working the expectation is that candidates will use correct geometrical language in full descriptions of any geometrical properties used. There were some candidates who attempted to do so, but usually their reasoning was for only one step in their calculation. Demonstrating working was invalid.

Numerical work was more successful, and frequently attracted marks. There was follow-through part for (b), where candidates could either start again, or use their answer to part (a). Credit was not given for answers that were absurd, eg 90° or more when this was clearly not the case, given the diagram.

1.3 GRADE BOUNDARIES

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