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Mr P Barnes  
Headteacher  
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Dear Mr Barnes

### **Ofsted 2011–12 subject survey inspection programme: mathematics**

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 8 and 9 December 2011 to look at work in mathematics.

The visit provided valuable information which will contribute to our national evaluation and reporting. Published reports are likely to list the names of the contributing institutions but individual institutions will not be identified in the main text without their consent.

The evidence used to inform the judgements included: interviews with staff and students; scrutiny of relevant documentation; analysis of students' work; and observation of nine lessons.

The overall effectiveness of mathematics is outstanding.

#### **Achievement in mathematics**

Achievement in mathematics is outstanding.

- Attainment on entry to the school is broadly average in mathematics. Students make outstanding progress so that attainment is above average by the end of Key Stage 3 and high by the end of Key Stage 4. GCSE results in mathematics are consistently well above average, with an increasing proportion of students gaining the highest grades.
- As a result of consistently good teaching, excellent assessment systems and prompt and determined intervention, learning is good in a large majority of lessons and progress over time is outstanding. Classrooms are very orderly due to good classroom management and high expectations of behaviour. Students enjoy mathematics and are well motivated. They present their work logically, showing the steps in their working.

- Higher-attaining students show independent learning skills, for example by asking questions to deepen their understanding. Students in lower sets are more reliant on teachers' guidance because their lessons are highly structured with much practice on straightforward examples.
- The sixth form is in only its third year of operation. The first GCE A-level results were above average, representing good progress for the students concerned. Students report that their teachers' contagious enthusiasm for mathematics encourages them to read around the subject.

### **Quality of teaching in mathematics**

The quality of teaching in mathematics is good.

- All lessons are very carefully planned, with an emphasis on students working through problems and exercises. In most cases, work is adapted to take account of students' differing needs. Teachers give good guidance to help students build up notes and examples in their exercise books. In lessons, teachers use questioning well to draw answers from students.
- Teachers are all adept at using informal assessment during lessons to promote learning. Periods of independent work by students are included in lesson plans, with explicit mention of the teacher circulating to monitor groups and individuals. Where necessary, teachers modify their approach on the basis of such assessments.
- Students in middle and higher sets learn to solve non-standard problems with confidence because they tackle a wide variety of questions within each topic. In lower sets, students are set too many very straightforward questions. The lack of variation means that they rarely have to try an alternative approach, and are less independent in their learning.
- The combined effect of a strong system of summary assessments and regular marking is good. Most books are well marked, with detailed comments. However, a few teachers rely on students' own marking, to which they add a comment, rather than marking diagnostically.

### **Quality of the curriculum in mathematics**

The quality of the curriculum in mathematics is outstanding.

- The curriculum provides outstandingly well for students' needs. The schemes of work are electronic and incorporate hyperlinks to tried and tested resources, including computer applications such as graph plotters, spreadsheets and a programming language. The emphasis on using and applying mathematics in Key Stage 3 is strong, with projects scheduled each half term to develop the relevant skills.
- The Key Stage 3 units of work include extension and supplementary material to be used at teachers' discretion. This provides a consistent experience because the head of department and senior leaders monitor students' work and encourage discussion among teachers of parallel sets.
- Each set in Key Stage 4 has a bespoke scheme of work. The department makes flexible use of early GCSE entry for borderline students and for

those at risk of fading in Year 11, but sensibly does not accelerate entry for the most able. Good learning and progress in lessons are supported by excellent academic monitoring. Students who fall behind are rapidly identified and provided with appropriate support.

- The environment for learning is very positive. The department has numerous displays of various types, including students' project work, assessment information, and posters on careers, real-life applications and mathematical discoveries. The school library has a range of books aimed at popularising mathematics.

### **Effectiveness of leadership and management in mathematics**

The effectiveness of leadership and management in mathematics is outstanding.

- The mathematics department is considered a standard bearer within the school and has a strongly established track record of success. The very strong drive for improvement in mathematics is shared by you, the line manager for mathematics and the head of department. Within the department, leadership capacity is developed by having two assistant heads of department. The value of this is illustrated by the way the current head of department was promoted from within.
- The school has a very thorough system of faculty review, incorporating a programme of lesson observations and work scrutiny. External specialists are engaged to give an independent aspect to monitoring and evaluation. Problems are identified at an early stage and tackled with determination. Peer observation by teachers and departmental meetings provide opportunities to share good practice.
- One of the most important factors in ensuring equity for students is the department being staffed entirely by mathematics specialists. In addition, the well organised schemes of work, the very thorough faculty handbook and clear departmental policies ensure consistently effective practice.

### **Areas for improvement, which we discussed, include:**

- ensuring that marking is consistently effective, so that all students know how to improve their work
- promoting independent learning skills more strongly, particularly for lower attaining students.

I hope that these observations are useful as you continue to develop mathematics in the school.

As explained previously, a copy of this letter will be published on the Ofsted website. It may be used to inform decisions about any future inspection.

Yours sincerely

**Stephen Abbott**  
**Her Majesty's Inspector**