

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

2357/02

**INFORMATION AND
COMMUNICATION TECHNOLOGY**

Paper 1 (Higher Tier)

MONDAY 21 JUNE 2010: Morning

DURATION: 1 hour 15 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Answer ALL the questions.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).**

INFORMATION FOR CANDIDATES

- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this paper is 60.**
- **No marks will be awarded for using brand names of software packages or hardware.**

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- 1 Roger keeps records of his class of students in a database.
Part of the database is shown below as 2 on-screen reports.

Students in my Class

Forename

Devendra

Family name

Chettiar

Home telephone number

01632 9610966

Home address

House No.

58

City

Cambridge

Post Code

CB27 8QT

Number of brothers/sisters

2

Student ID

902367

Gender (M/F)

M

Date of Birth

22-10-1995

Photograph



Previous ← → *Next*

Students in my Class

Forename

Jasmine

Family name

Wang

Home telephone number

01632 9610959

Home address

House No.

61a

City

Cambridge

Post Code

CB27 9SB

Number of brothers/sisters

0

Student ID

902355

Gender (M/F)

F

Date of Birth

26-09-1995

Photograph



Previous   *Next*

(a) Each record has a data type chosen from these available types:

- **text**
- **real number**
- **integer**
- **date**
- **Boolean**

Give the most suitable data type, from the list above, for each of the fields shown in the table below and state why you have chosen that data type.

The first one has been done for you.

FIELD	DATA TYPE	WHY THIS TYPE HAS BEEN CHOSEN
House No.	Text	Because house numbers could be a mixture of numbers or letters e.g. 61a
Gender (M/F)		
Home telephone number		
Number of brothers/sisters		

[6]

(d) Roger stores this information on the school computer system and can access it from home using the internet.

Explain how the school can try to prevent unauthorised people from accessing the information.

[6]

(e) When Roger enters details of a new student into his database, validation checks are carried out.

Complete the table below.

Some of the table has been completed for you.

VALIDATION CHECK	THIS CHECK SHOULD BE USED ON THIS FIELD	THIS CHECK MAKES SURE THAT:
Presence check	Family name	
Range check		the numbers being entered are within a set range.
Character type check		

[4]

2 Figures 1 and 2 on the following pages show two versions of a poster advertising a school play.

Fig. 1 Draft version of the poster

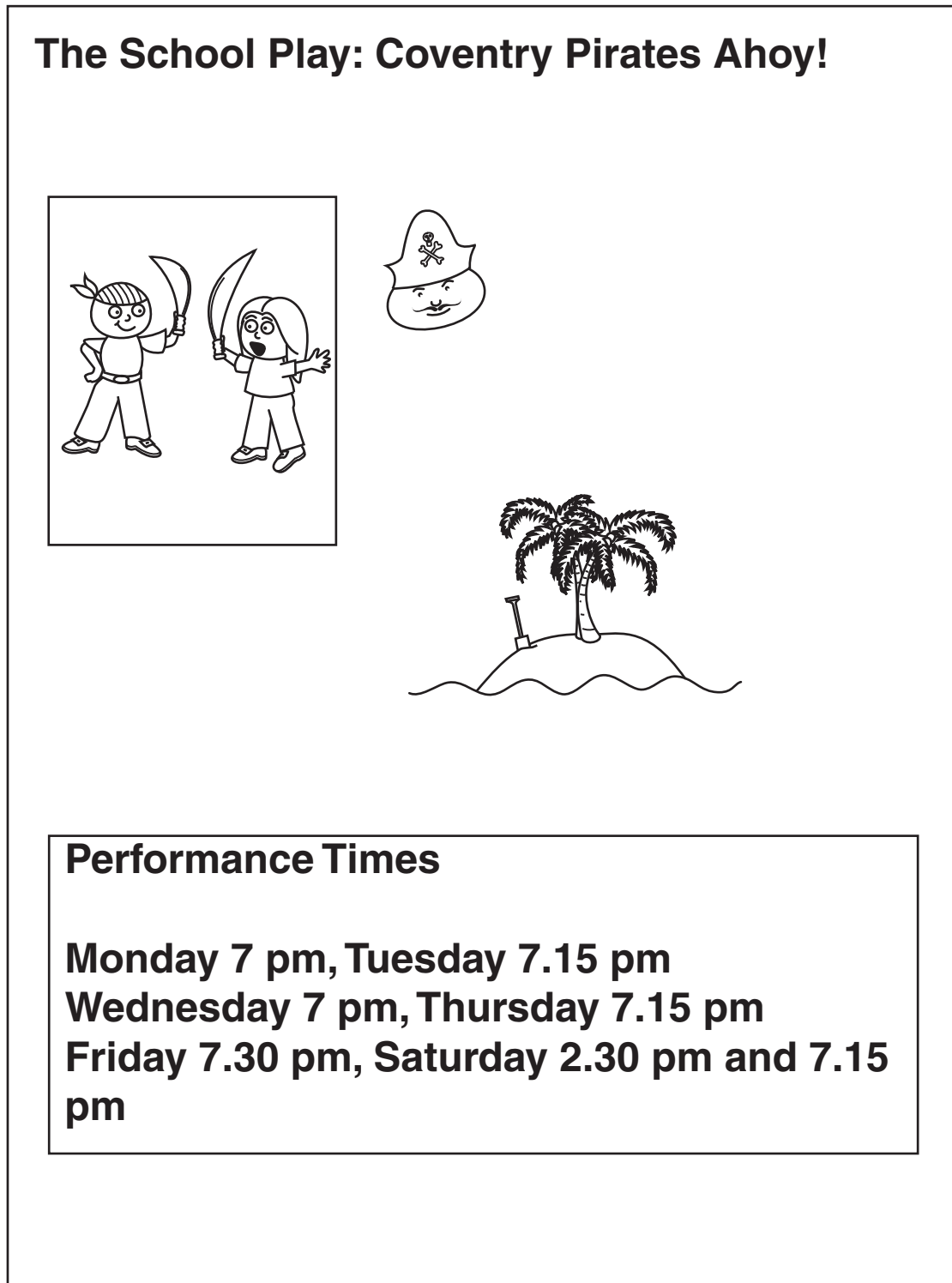
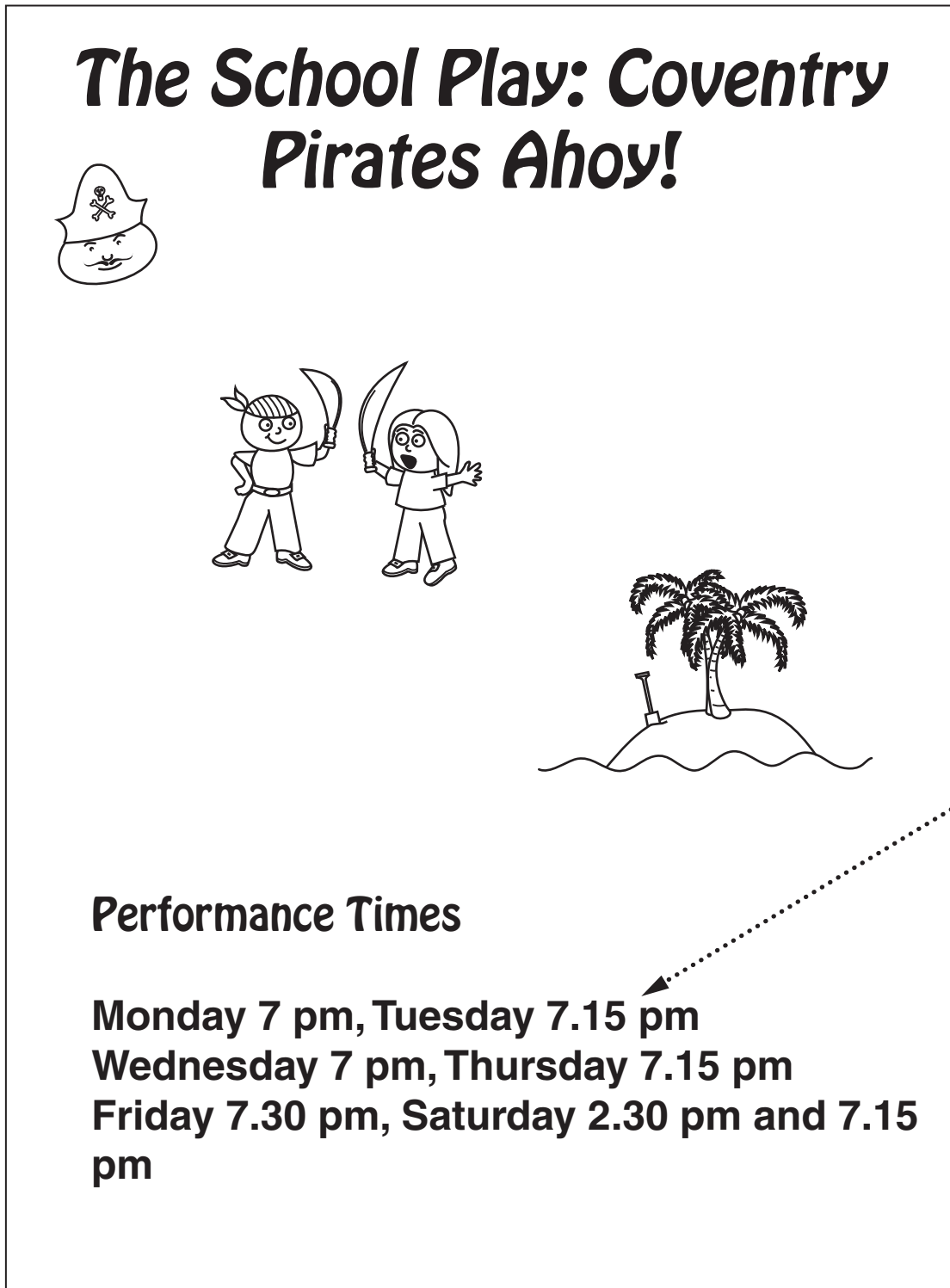


Fig. 2 Improved version of the poster



- (a) Some improvements have already been made to the poster but more need to be done.

Give TWO ways in which the appearance of the list of performance times at A could be improved.

[2]

- (b) The details in the list were copied from the school newsletter.

How could the details in the list on the poster be checked for accuracy?

[2]

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3 A medical practice has surgeries on several sites but stores all its patients' information on the main site's computer network. Computers on other sites can connect to the network or access the information via the internet.

(a) One site still uses a dial-up connection along ordinary telephone lines to access the information stored on the main site's network.

(i) State ONE additional hardware device that this site must have to make a dial-up connection.

_____ [1]

(ii) Why is this device needed when using dial-up connections?

_____ [2]

(b) Another site uses a digital broadband connection to access the internet.

Why is this preferable to a dial-up connection?

[4]

5 Maxwell is starting a company that will design and sell kitchens to home owners.

(a) He will have several employees who will travel around the country to visit customers.

Discuss the advantages and disadvantages of choosing laptop computers rather than desktop computers for these employees.

[7]

(b) Maxwell uses a computer to model the finances of the new company.

What is a “computer model”?

[3]

(c) (i) Describe how the company could make use of the internet.

(ii) Describe the security issues that the company must consider.

[8]

6 Explain why a computer system needs both main memory AND secondary storage.

[3]



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