COMPUTER SCIENCE
PAPER 1: PRINCIPLES OF COMPUTER SCIENCE

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname	
Other names	
Centre Number	
Candidate Number	

X72538A

Pearson

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

> **THIS DATA BOOK MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.**

Contents

Page

Question 2 (c)
Complete the table

0	0	1	1	0	1	0	0
0	0	0	1	0	1	1	0

Question 2 (c)
Complete the table

0	0	1	1	0	1	0	0
0	0	0	1	0	1	1	0

Question 2 (d) (i)
Complete the table

COLOUR	BINARY PATTERN
Green	
Black	
White	
Red	
Blue	

Question 2 (d) (i)
Complete the table

COLOUR	BINARY PATTERN
Green	
Black	
White	
Red	
Blue	

Question 3 (a)

Complete the graph using the sample information from FIGURE 1 to show the digital sound wave.

Y axis

```
12
11
10
 9
 8
 7
 6
 5
 4
 3
 2
 1
 0
     0.2      0.4      0.6      0.8      1.0
```

X axis

Question 3 (a)

Complete the graph using the sample information from FIGURE 1 to show the digital sound wave.

Y axis

12
11
10
9
8
7
6
5
4
3
2
1
0

0.2   0.4   0.6   0.8   1.0
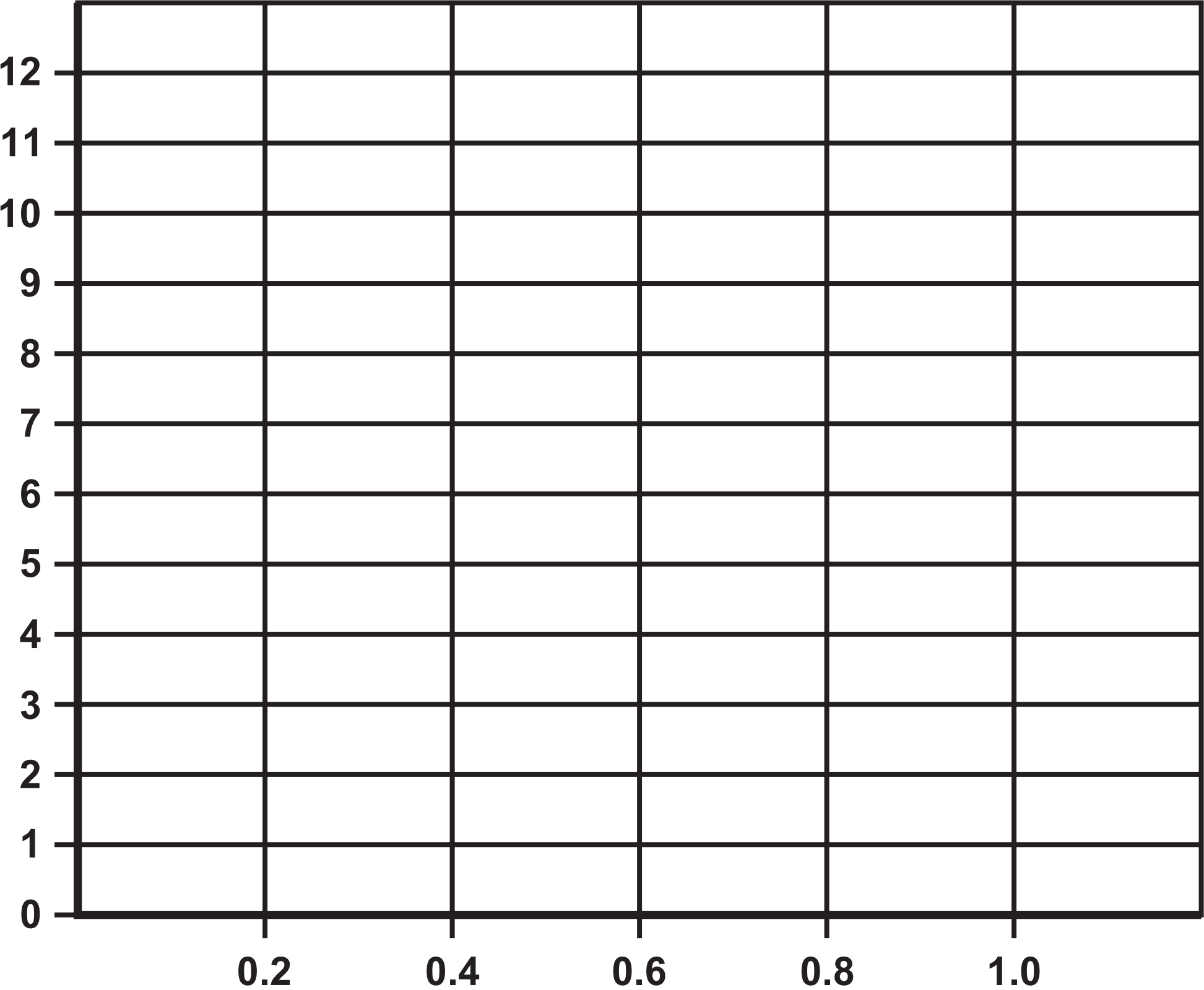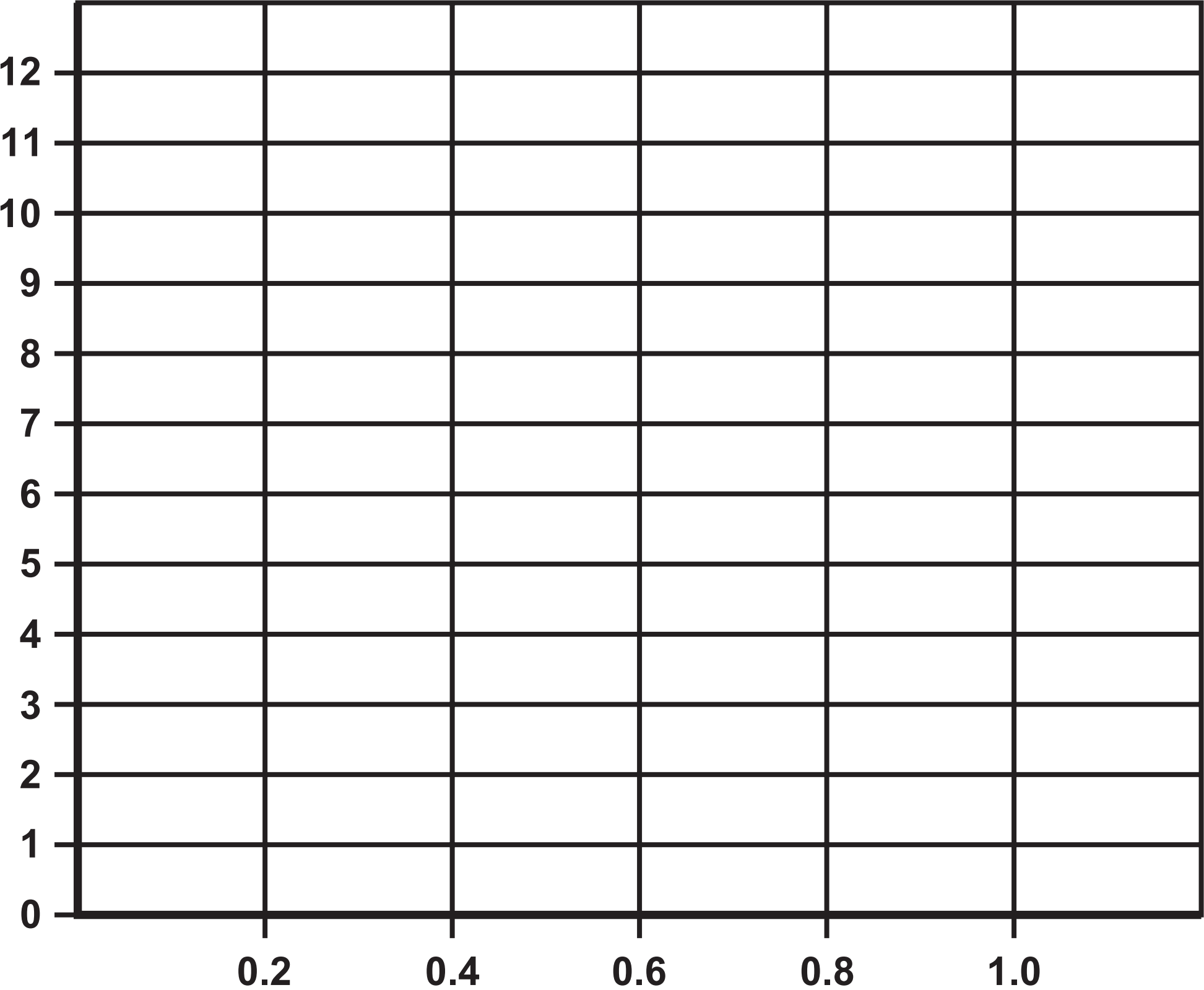
X axis

Question 3 (b) (iv)

Complete the table by adding a description
of each URL component.

URL COMPONENT	DESCRIPTION
https	
www.cloudisfab.com	
re12	
ru2.mp3	

Question 3 (b) (iv)

Complete the table by adding a description of each URL component.

URL COMPONENT	DESCRIPTION
https	
www.cloudisfab.com	
re12	
ru2.mp3	

Question 4 (a) (i)

Draw the flowchart for the algorithm.

Space for working:

Question 4 (a) (i)

Draw the flowchart for the algorithm.

Space for working:

Question 4 (b)

Table showing four steps in the algorithm.

	STEP
A	Change the temperature to Celsius
B	Get the temperature in Fahrenheit
C	Show the temperature in Celsius
D	Set the temperature to 0

Question 4 (c)

FIGURE 2 – pseudocode for an early version of an algorithm that Reba has written for another game.

```
 1 SET  Colour  TO  " "
 2 SET  Score  TO  0
 3 SET  RedPoints  TO  0
 4 SET  OrangePoints  TO  0
 5 SET  NumOranges  TO  0
 6
 7 WHILE  Colour  < >  " –1 "  DO
 8 RECEIVE  Colour  FROM  (STRING)  KEYBOARD
 9 IF  Colour  =  " red "  THEN
10 SET  RedPoints  TO  RedPoints  +  1
11 ELSE
12 IF  Colour  =  " orange "  THEN
13 SET  OrangePoints  TO  OrangePoints  +  8
14 SET  NumOranges  TO  NumOranges  +  1
15 END  IF
16 END  IF
17 END WHILE
18
19 SET  Score  TO  RedPoints  +  OrangePoints
20
21 SEND  ( " Score: " &  Score)  TO  DISPLAY
22 SEND  ( " Number of reds: " &  RedPoints)  TO  DISPLAY
23 SEND  ( " Number of oranges: " &  OrangePoints)  TO  DISPLAY
```

Question 4 (c) (i)

Complete the trace table to show the outputs.

Colour	Score	RedPoints	OrangePoints	NumOranges	Outputs
	0	0	0	0	
red					
orange					
red					
red					
orange					
– 1					

Question 4 (c) (i)

Complete the trace table to show the outputs.

Colour	Score	RedPoints	OrangePoints	NumOranges	Outputs
	0	0	0	0	
red					
orange					
red					
red					
orange					
– 1					

Question 6 (a)

FIGURE 3 – Network topology.