MODULE C DATA REPRESENTATION · C3

Hexadecimal

Original practice questions · 21 marks · ~25 minutes · OCR J277 spec 1.2.4

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. No calculator. Hexadecimal numbers on this worksheet have up to **2 digits** (00 to FF). The marks for each part are shown in brackets [ ]. The total for this worksheet is **21 marks**.

1

Total: 4 marks

(a) State how many different digits the hexadecimal number system uses. **[1]**

(b) State the denary value of the hexadecimal digit C. **[1]**

(c) State the largest 2-digit hexadecimal number **and** its denary value. **[2]**

Hexadecimal: .....

Denary: .....

2

Total: 4 marks

A theatre uses a lighting controller. Each light has a brightness level from 0 to 255, which the controller's screen shows as a 2-digit hexadecimal number.

(a) Convert the denary brightness 75 into hexadecimal. **[1]**

Answer: .....

(b) Convert the denary brightness 160 into hexadecimal. Show your working. **[2]**

Answer: .....

(c) Convert the denary brightness 13 into 2-digit hexadecimal. **[1]**

Answer: .....

3 **Total: 4 marks**

The lighting technician reads these hexadecimal brightness levels from the controller.

(a) Convert the hexadecimal number 2E into denary. **[1]**

Answer: .....

(b) Convert the hexadecimal number B7 into denary. Show your working. **[2]**

Answer: .....

(c) Convert the hexadecimal number F0 into denary. **[1]**

Answer: .....

4 **Total: 4 marks**

(a) Complete the table by writing the missing value in each row. **[4]**

Denary	Hexadecimal
100	
30	
	9C
	50

5 **Total: 3 marks**

(a) Describe how the hexadecimal number 3D is converted into denary. Give the denary answer. **[3]**

6 **Total: 2 marks**

The technician sets up two spotlights for a new scene.

(a) The first spotlight is set to hexadecimal C4. Convert C4 into denary. **[1]**

Answer: .....

(b) The second spotlight needs a brightness of denary 58. Convert 58 into hexadecimal. **[1]**

Answer: .....

Total for this worksheet: 21 marks