Name: Class:

# Task 1

# 1. How many bytes are there in:

(a) 3 KiB?

(b) 2.5 MiB?

(c) 2 GiB?

(d) 4 Kib

# 2. For each of the binary values below, write down the denary equivalent. Use the grid below to help you.

(a) 1101

(b) 1111

(c) 00100110

(d) 10110111

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **128** | **64** | **32** | **16** | **8** | **4** | **2** | **1** |
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# 3. What binary value is represented by the switches in the following circuit?

Shape, rectangle

Description automatically generated

# 4. For the binary number 0110 1101, what is the value stored in:

(a) the most significant bit?

(b) the least significant bit?

# Task 2

# 1. For each of the denary values below, write down the binary equivalent.

(a) 18

(b) 57

(c) 163

(d) 255

# 2. How many bytes would be needed to store the number 256?

# Task 3

1. The questions below use 16 bits. Complete the place value headings in the grid for the 10th-16th bits. Then convert the following binary numbers to denary.

(a) 0001 1100 0111 0001

(b) 0010 0110 0010 0110

(c) 1111 1111 1111 1111

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|  |  |  |  |  |  |  |  | **128** | **64** | **32** | **16** | **8** | **4** | **2** | **1** |
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(d) Convert **19,675** to binary using the table below:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  | **128** | **64** | **32** | **16** | **8** | **4** | **2** | **1** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# 2. For each of the binary values below, write down the denary equivalent. Use the grid below to help you.

(a) 1 1011 1001

(b) 1011 0010 1010

(c) 1001 1101 1110 1001

(d) 1110 0101 1100 0001

# 3. For each of the denary values below, write down the binary equivalent.

(a) 152 109

(b) 18 325

(c) 56 603

(d) 65 535

# Task 4

Fill in the blanks using the words beneath to complete the following paragraph.

A is made from a huge number of . These are used   
to data. Each CPU will have a number of . Each one will store . When a calculation (processing) occurs, the results will also be stored in a register.

**Registers Process Logic gates Binary data CPU**