

7 Web browsers use Internet Protocol (IP) addresses.

(a) Complete the table by describing the following types of IP address.

Type of IP address	Description
Static	..... .....
Public	..... .....

[2]

(b) Consider the following IP address:

256.0.0.A

Circle whether this IP address is IPv4, IPv6 or an invalid IP address.

IPv4          IPv6          Invalid

Justify your choice.

.....  
.....  
.....  
..... [2]

(c) A user types a Uniform Resource Locator (URL) into the address bar of a web browser to access a web page.

Explain how the web browser uses the URL to access the web page.

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..... [4]

(d) A bitmap file is downloaded. The image has a maximum of 256 colours and measures 512 pixels wide by 2048 pixels high.

(i) Calculate an estimate of the file size of the bitmap in kibibytes.

Show your working.

Working .....

.....  
.....  
.....

File size of bitmap ..... kibibytes

[2]

(ii) Explain why the actual file size may be larger than the one calculated in (d)(i).

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..... [2]

(iii) Explain how a bitmap image is compressed using run-length encoding (RLE).

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..... [2]