

1.1.2 Images

Computer Science (9608)

Oct/Nov 2015. P11/P13

8 (a) Six computer graphics terms and seven descriptions are shown below.
Draw a line to link each term to its correct description.

Term	Description
Bitmap graphic	Measured in dots per inch (dpi); this value determines the amount of detail an image has
Image file header	Picture element
Image resolution	Image made up of rows and columns of picture elements
Pixel	Image made up of drawing objects. The properties of each object determine its shape and appearance.
Screen resolution	Specifies the image size, number of colours, and other data needed to display the image data
Vector graphic	Number of samples taken per second to represent some event in a digital format
	Value quoted for a monitor specification, such as 1024 x 768. The larger the numbers, the more picture elements will be displayed.



[6]





1.1.2 Images

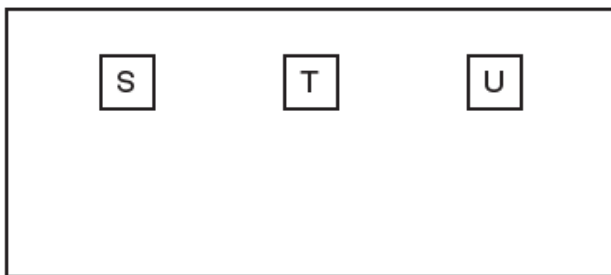
(b) (i) A black and white image is 512 pixels by 256 pixels.

Calculate the file size of this image in kilobytes (KB) (1 KB = 1024 bytes). Show your working. [2]

(ii) Give a reason why it is important to estimate the file size of an image. [1]

Oct/Nov 2015. P12

3 A touch screen has three squares where a selection can be made:



(a) The x-coordinate of the centre of the three squares is held in three memory locations:

	Address	Memory contents
S	40	0000 1011 0100
T	41	0010 0101 0100
U	42	0100 0110 1100

(b) Bitmap graphics are used to represent squares S, T and U.

These can be saved in a number of different image resolutions.

(i) Give the number of bits required to store each pixel for a black and white bitmap. [1]

(ii) Identify how many bits are required to store each pixel for a 256-colour bitmap. Explain your answer. [2]

Oct/Nov 2016. P11/P13

7 A small company produces scientific magazines. The owner buys some new desktop computers.

The computers are used to store thousands of colour images (diagrams and photographs). All the computers have Internet access.

(b) The images contained in the magazines are produced using either bitmap or vector graphics software.

Give **four** differences between bitmap and vector graphics. [4]

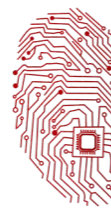
May/June 2018. P11

2 A logo is designed as a bitmap image.

(a) Describe what is meant by a bitmap image. [2]

(b) A black and white bitmap image is shown.





1.1.2 Images



- (i) Explain how a computer can store this bitmap image. [2]
- (c) The finished logo is 500 pixels by 1000 pixels and uses 35 different colours. Estimate the file size for the logo. Give your answer in kilobytes. Show your working. [4]
- (d) The logo is redesigned as a vector graphic. State two benefits of a vector graphic compared to a bitmap image. Give a reason for each benefit. [4]

