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Question # 1 (15 Marks):

On a Black & White display device, Pixel is rectangular in shape, i.e. Its width is triple its height. We want to draw a thinnest possible horizontal and vertical line. What difference will be there between these two? Explain your answer.

ANS:

When you try to draw a line with black and white pixels only, the result is a jagged staircase effect. This effect is an example of something called "aliasing." Aliasing can also be seen in the outlines of characters drawn on the screen and in diagonal or curved boundaries between any two regions of different color.

Question # 2 (15 Marks):

Explain Aspect Ratio. How can it be determined? Why is the aspect ratio required to be changed when the shape of screen is changed (For example, from square to rectangle).



ANS:Aspect Ratio:

Aspect Ratio is number of pixel columns to the number of pixel rows. The aspect ratio of a rectangle is the ratio of its width to its height. Aspect ratio describes the ratio between the width and height of an image or screen.

For example an aspect ratio of 2:1 means that a rectangle is twice as wide as it is tall.

How can it be determined?

To create an exact aspect ratio, divide the height by the width.

For example: 2:3 aspect ratio: $3 \div 2 = 1.5$,

Aspect Ratio = Height/width

Why is the aspect ratio required to be changed when the shape of screen is changed (For example, from square to rectangle).

Because you may need to change the aspect ratio of an image so it is compatible with the platform or device

you are using.

