1. What is the fraction of total refresh time spent in retrace of electron beam for a non interlaced raster system with a resolution of 1280 x 1024 and refresh rate of 60 Hz , the horizontal retrace time is 5 microsecond and vertical retrace time of 500 microsecond?

Here ,

The fraction of total refresh time spent in retrace of electron beam $= \frac{n \times t_h + t_v}{1/r}$

where t_h is horizontal retrace

t_v is vertical retrace and r is the refresh rate

n x m = 'm' scan lines and 'n' pixels in each scan line

2. Suppose we have a video monitor with display area that measures 12 inches across and 9.6 inches high. If resolution is 1280 by 1024 what is the aspect ratio and the diameter of each pixel?

Aspect ratio = w/h i.e. 1280/12 / 1024/9.6 = 1

Diameter of each pixel = 12/1280 or 9.6/1024 = 0.0094 inches

3. How much time is spent scanning across each row of pixels during screen refresh on a raster system with a resolution of 1280 x 1024 and refresh rate of 60 frames per second.

Here time required to refresh the screen (t) = 1/60 seconds