

- 17 The screen on most modern smartphones uses tiny, regularly-spaced pixels each capable of producing red, green, or blue light to make up an image. At typical viewing distances, the human eye is unable to resolve the individual pixels that make up the image on the screen.

The wavelengths for red, green, and blue are 660 nm, 550 nm, and 470 nm respectively. The diameter of the pupil through which light enters the eye is 4.0 mm. Humans tend to place the mobile phone screens closest to the eye at about 10 cm when lying down.

What is the maximum distance between adjacent pixels?

- A  $1.2 \times 10^{-5}$  m
- B  $1.2 \times 10^{-6}$  m
- C  $1.7 \times 10^{-5}$  m
- D  $1.7 \times 10^{-6}$  m