$v = f\lambda = \left(\frac{20}{60}\right) 3 = \frac{60}{60}\,m/s = 1\,m/s$

(20 times per minute $= \frac{20}{60}$ times per second)

b) i) d is halved

$\therefore$ v is multiplied by $\sqrt{1/2} = 0.707$

$\therefore v_{new} = 1 \times 0.707 = 0.707\,m/s$

ii) frequency is same

$v = f\lambda \Rightarrow \lambda = \frac{v}{f} = \frac{0.707}{20/60} = 2.121m$

c) $v = \sqrt{gd} \Rightarrow d = \frac{v^2}{g} = \frac{0.707^2}{9.8} = 5.1cm$

(or 0.051 m)

6) No diagram.

7) ~~Sape~~ wavelength of sound from a few cm to a metre typically - everyday objects (doors & windows are about this size) but wavelength of light is about 0.0000005 m and no everyday object is this size.