(1)

0.75

10.75

(2)

52.6

147

B, the most

(3)

Normal reaction force N exerted by the bottom of the vessel is equal to the force exerted by the liquid on the bottom of the vessel.

And

N-W= ma when the vessel **accelerates upwards with a**

m= density x height x area

N= mg + ma = m(g+a)

Pressure P = N/A

Rearranging

P = density x h x(a+g)

**Move downwards with a**

W-N=ma

N= mg-ma = m(g-a)

1. P = density x h x(g+a)
2. P = density x h x(g-a)
3. P = density x h x(g - g) = 0 , no pressure as there is no contact between liquid and the bottom of the vessel

(4)

54s

Extra time is needed to generate more energy to do work to overcome air resistance and/or friction.

Or

Engine may not always operate at max power , hence longer time needed to generate the same amount of energy

(6)

200 Hz

9/4 I

Meet at the same place, same time

Antiphase

Coherent sources

I/4

(7)

377 ohms

5.28 V

(8)

Proton / hydrogen

(ii)