



$$(a) (i) \quad \angle ADC = 20$$

~~AB~~

$$AB = 1 \quad AC = 1$$

$$\angle ABD = 0 \quad \angle ACD = 0$$

$$(b)(i) \quad V = 2e^0 + 2e^0$$

$$2 \times 1 + 2 \times 1$$

$$2 + 2 = 4 \text{ at 4 Litres}$$

$$(ii) \quad V = \frac{1}{2}e^t + \frac{1}{2}e^{-t}$$

(iii) ~~4~~