



Q5 a) domain: $-5 \leq x \leq 5$

range: $0 \leq y \leq 10$

b) i) $\log_{10}(2^{1000}) = 1000(\log_{10} 2)$

$= 301.030$

ii) $2^{1000} = (2^{10})^{100}$

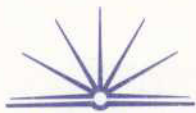
$\therefore (4)^{100}$ digits = 1048576 digits

c) $l = r\theta$

$\therefore 8 = r\left(\frac{\pi}{6}\right)$

$\therefore r = 15.3 \text{ cm}$

$= 153 \text{ mm}$



d) i) $R = 4$

$$\begin{aligned} \therefore A &= \frac{4}{2} [(0+0) + 2(1.3+1.7)] \\ &= 2 [6] \\ &= 12 \text{ m}^2 \end{aligned}$$

ii)