Answers for 3C7

1. (c) (ii) $\dfrac{C_2}{C_1} = \dfrac{1}{3}$ and $C_3 = C_1$

   (c) (iii) not possible

2. (a) inner cylinder $-\dfrac{p_c b^2}{E(b^2 - a^2)} \left(1 + \dfrac{a^2}{r^2} - \nu + \nu \dfrac{a^2}{r^2} \right)$

   outer cylinder $\dfrac{p_c b^2}{E(c^2 - b^2)} \left(1 + \dfrac{c^2}{r^2} - \nu + \nu \dfrac{c^2}{r^2} \right)$

   (c) (ii) $\dfrac{a}{b} = \dfrac{b}{c}$

3. (c) $\sigma_{rr} = -\dfrac{2P \sin\theta}{r(\sin 2\alpha - 2\alpha)}$

4. (b) (i) $\dfrac{F}{2k} = \dfrac{4(x^2 - hx + 4h^2)}{h + x}$

   (b) (ii) $F_{\min} \approx 15.2kh$