

Multiple Choice Answers

Q21: D

Multiple Choice Answers

Q21: A

Q22: A

Multiple Choice Answers

Q20: D

Q23: C

3(a)	ratio of stress to strain
3(b)(i)	$R_0 = \rho L / A$
3(b)(ii)	$k = F / x$
	$E = FL / Ax = ((F / x) \times (L / A)) = kL / A$ leading to $k_0 = EA / L$
3(c)(i)	straight line with positive gradient starting at (0, R_0)
3(c)(ii)	straight horizontal line starting at (0, k_0)
3(d)(i)	$L = [0.034 \times \pi \times (0.80 \times 10^{-3})^2] / 1.8 \times 10^{-8} = 3.8 \text{ (m)}$
3(d)(ii)	$k = [1.3 \times 10^{11} \times \pi \times (0.80 \times 10^{-3})^2] / 3.8$
	or
	$k = EA / [RA / \rho] = E\rho / R$
	$= [1.3 \times 10^{11} \times 1.8 \times 10^{-8}] / 0.034$
	$k = 6.9 \times 10^4 \text{ N m}^{-1}$

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