

Multiple Choice Answers

Q19: A

Multiple Choice Answers

Q19: B

Q20: B

Multiple Choice Answers

Q16: A

Q18: C

Multiple Choice Answers

Q18: A

Multiple Choice Answers

Q19: B

Q20: C

Multiple Choice Answers

Q17: B

Multiple Choice Answers

Q14: C

Q15: B

3(a)	product of force and displacement in direction of force
3(b)	weight/force = mg , and g identified as acceleration of free fall
	ΔE_p identified as work (done by lifting force/weight), and so = $mg \times \Delta h$
3(c)(i)	$240 \times 150 = 36 \text{ kJ}$
3(c)(ii)	$P = W / t$
	$= 36\,000 / 60$
	$= 600 \text{ W}$
3(c)(iii)	efficiency = <u>useful</u> output power / total input power
	$= 600 / 900$
	$= 0.67$
3(c)(iv)	$P = I^2 R$ and $R = \rho L / A$
	$280 = I^2 \times (1.7 \times 10^{-8} \times 23) / (2.6 \times 10^{-8})$
	$I = 4.3 \text{ A}$