Question number	Answer	Notes	Marks
3 (a)	B; C;	reject if more than one letter given reject if more than one letter given	2
(b)	substitution; rearrangement; evaluation; e.g. $380\,000 = m \times 10 \times 45$ (m =) $380\,000 / (10 \times 45)$ (m =) 840 (kg)	 -1 for POT error allow 844, 844.4...(kg) 862 (kg) if g=9.8 861 (kg) if g=9.81	3

Total for question 3 = 5 marks

Question number	Answer	Notes	Marks
5 (a)	MP1. measure time for a set distance; MP2. realistic values suggested for experiment to work; MP3. suitable measuring instrument named; MP4. further detail of setup; MP5. idea of repeats and average; MP6. reference to speed = distance / time;	allow measuring wavelength for a known frequency e.g. • greater than 1m for microphones and oscilloscope method • greater than 100m for seeing and hearing a clap method • greater than 50m for wall and echo method • wavelength measured greater than 10cm e.g. stop clock, stopwatch, ruler, tape measure, oscilloscope e.g. • two microphones on bench connected to oscilloscope • start timing when see a clap and stop when hear it • clap by wall and time how long for clap to come back • moving a microphone until waveforms line up on oscilloscope allow speed = frequency × wavelength	6