

Multiple Choice Answers

Q3: B

Q22: B

Multiple Choice Answers

Q3: C

1(a)	air temperature: K and air pressure: $\text{kg m}^{-1} \text{s}^{-2}$
	scalar only ticked for both air temperature and air pressure
1(b)(i)	$\text{upthrust} = 1.1 \times 9.81 \times (4\pi \times 0.90^3 / 3)$
	$= 33 \text{ N}$
1(b)(ii)	(due to difference in height / depth there is a) difference in pressure between top and bottom (of balloon)
	(due to pressure difference, upwards) force on bottom of balloon is greater (than downwards force on top of balloon, so resultant force is upwards)
1(b)(iii)	$(\Sigma)F = 33 - 19$ $(= 14 \text{ N})$
	$m = 19 / 9.81$ $(= 1.94 \text{ kg})$
	$a = (33 - 19) / (19 / 9.81)$ $= 7.2 \text{ m s}^{-2}$
1(c)	$5 + 3 + (2 \times 4)$ $(= 16\%)$
	absolute uncertainty in $c = 1.8 \times 0.16$ $= (\pm) 0.3$

Multiple Choice Answers

Q2: D

Q4: C