

Question Number	Scheme	Marks
1(a)		B1 shape B1 20 B1 T , $T+180$, $3T+180$
		(3)
1(b)	<p>T and $2T$ seen or implied, for acceleration and deceleration in that order</p> <p>Any of:</p> $4800 = \left(\frac{20 \times T}{2}\right) + (180 \times 20) + \left(\frac{20 \times 2T}{2}\right)$ $4800 = \left(\frac{20 \times T}{2}\right) + \frac{1}{2} \times 20(180 + (180 + 2T))$ $4800 = \frac{1}{2} \times 20(180 + T + 180) + \left(\frac{20 \times 2T}{2}\right)$ $4800 = \frac{1}{2} \times 20(180 + 3T + 180)$ $4800 = 20 \times (180 + 3T) - \left(\frac{20 \times T}{2}\right) - \left(\frac{20 \times 2T}{2}\right)$	B1 M1 A1 A1
	$T = 40$ (allow t)	A1
		(5)
1(c)	$20 = a \times \text{their } T \text{ oe}$	M1
	Acceleration = $\frac{1}{2} (\text{m s}^{-2})$	A1 ft
		(2)
		(10)
	NOTES	
(a) B1 B1 B1	<p>Correct shape with acceleration steeper than deceleration (ignore entries on the axes).</p> <p>Correct vertical label.</p> <p>Correct horizontal labels. Accept use of their T or appropriately labelled delineators.</p>	