

Question Number	Scheme	Marks
8(a)	$s = \frac{1}{2} \times 3 \times 4^2$ OR $s = \frac{1}{2} \times 4 \times 12$	M1
	= 24 (m)	A1
		(2)
(b)	12 ( $\text{m s}^{-1}$ ); 42 ( $\text{m s}^{-1}$ )	B1
	$12 \times 20 + \frac{1}{2} \times 1.5 \times 20^2$ (= 540) OR $\left( \frac{12+42}{2} \right) \times 20$	M1 A1ft
	$42 \times 2 + \frac{1}{2}(-4) \times 2^2$ (= 76) OR $\left( \frac{42+34}{2} \right) \times 2$	M1 A1ft
	Total = 640 (m)	A1 cao
		(6)
		(8)
<b>Notes for Question 8</b>		
8(a)	M1 Complete method to find distance travelled in first 4 s Must be area of a triangle from a $v-t$ graph A1 Correct answer	
8(b)	B1 Both speeds seen anywhere e.g. on a diagram or in part (a) M1 Complete method to find total distance travelled in next 20 s Must be area of a trapezium from a $v-t$ graph (they may use a rectangle + triangle) A1 ft Correct unsimplified distance, ft on their 12	
	M1 Complete method to find total distance travelled in next 2 s Must be area of a trapezium from a $v-t$ graph (they may use a rectangle + triangle) A1 ft Correct unsimplified distance, ft on their 42	
	A1 cao for total distance	