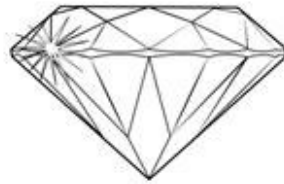




KEMENTERIAN PENDIDIKAN
JABATAN PENDIDIKAN NEGERI PERAK



MODUL BLUE DIAMOND *Matematik Tambahan*

TINGKATAN 5

Bab 8

KINEMATIK GERAKAN LINEAR *(Kinematics of Linear Motion)*

SKEMA JAWAPAN

JABATAN PENDIDIKAN NEGERI PERAK
We Deliver

SKEMA JAWAPAN KERTAS 2

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
1	(a)	$2t - 6 = 0$ $v = t^2 - 6t + 8$ $v = (3)^2 - 6(3) + 8$ -1 ms^{-1}	1 1 1 1	10
	(b)	$t^2 - 6t + 8 > 0$ dan selesaikan $0 \leq t < 2$ or $t < 2$ dan $t > 4$ $k = 4$	1 1	
	(c)	$\int t^2 - 6t + 8 \, dt$ Guna $\int_0^2$ atau $\int_2^4$ dalam $\left[\frac{t^3}{3} - 3t^2 + 8t \right]$ $\int_0^2 t^2 - 6t + 8 \, dt + \left \int_2^4 t^2 - 6t + 8 \, dt \right $ 8 m	1 1 1 1	

Sumber : Ticket To Victory 1 | Kertas 2 | Set 2 | Soalan 12

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
2	(a)	(i) 9 $v = \int 9 - 6t \, dt$ (ii) $v = 9t - 3t^2 + c$ $v = 9(5) - 3(5)^2 + 2$	1 1 1 1	10
	(b)	$9 - 6t = 0$ $t = \frac{3}{2}$ $v = 9\left(\frac{3}{2}\right) - 3\left(\frac{3}{2}\right)^2 + 2 = \frac{35}{4}$	1 1 1	
	(c)	$v = 24t^2 - 2t$ atau $\frac{ds}{dt} = 24t^2 - 2t$ $24\left(\frac{3}{2}\right)^2 - 2\left(\frac{3}{2}\right)$ 51	1 1 1	

Sumber : Ticket To Victory 1 | Kertas 2 | Set 3 | Soalan 12

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
3	(a)	$\frac{dv}{dt} = -6t$	1	10
		$\frac{dv}{dt} = -6(1), \quad \frac{dv}{dt} = -6$	1	
	(b)	$v_b = -3\left(t + \frac{1}{3}\right)^2 + 3 = 0, \quad t = \frac{2}{3}$	1	
		$s_{a1} = a\left(\frac{2}{3} - 2\right)^2, \quad s_{a1} = \frac{16}{9}a$	1	
		$s_{a2} = a(1 - 2)^2, \quad s_{a2} = a$	1	
		$s_{a1} + (s_{a1} - s_{a2}) = \frac{23a}{9}$	1	
	(c)	$v_b(t) = 0, \quad 0 = -3t^2 + 3, \quad t = 1$	1	
		$s_a = 4t(t - 2)^2, \quad \frac{ds}{dt} = 12t^2 - 32t + 16$	1,1	
		$\frac{ds}{dt} = 12(1)^2 - 32(1) + 16 = -4$	1	

Sumber : Ticket To Victory 2 | Kertas 2 | Set 1 / Soalan 15

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
4	(a)	$25m + 5n = 0$ or $5m + n = 0$	1	10
		$a = 2mt + n$	1	
		$2m+n = 3$	1	
		$m = -1, n = 5$	1,1	
	(b)	$-t^2 + 5t > 0$	1	
		$0 < t < 5$	1	
	(c)	$S = -\frac{t^3}{3} + \frac{5t^2}{2}$	1	
		use $S_{t=5} - S_{t=4}$	1	
		2.167	1	

Sumber : Ticket To Victory 2 | Kertas 2 | Set 2 | Soalan 14

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
5	(a)	$(0)^2 - 8(0) + 12$	1	10
		12 m s^{-1}	1	
	(b)	$t^2 - 8t + 12 > 0$	1	
		$(t - 6)(t - 2) > 0$	1	
		$0 \leq t < 2, t > 6$	1	
	(c)	$2t - 8 < 0$	1	
		$0 < t < 4$	1	
	(d)	$s = \frac{t^3}{3} - \frac{8t^2}{2} + 12t + c$	1	
		$\frac{(1)^3}{3} - \frac{8(1)^2}{2} + 12(1) / \frac{(2)^3}{3} - \frac{8(2)^2}{2} + 12(2)$	1	
		$\left \frac{32}{3} - \frac{25}{3} \right $	1	
		$\frac{7}{3} \text{ m}$	1	

Sumber : Modul Gempur | Kertas 2 | Set 1 | Soalan 14

NO.	BUTIRAN		PECAHAN MARKAH	JUMLAH
6	(a)	$1 - 2t = 0$	1	10
		$t = \frac{1}{2} s$	1	
		$v_p \left(\frac{1}{2} \right) = 6 + \left(\frac{1}{2} \right) - \left(\frac{1}{2} \right)^2$	1	
		$v_p = \frac{25}{4} \text{ ms}^{-1}$	1	
	(b)	$s = 6t + \frac{t^2}{2} - \frac{t^3}{3}$	1	
		$s(3) = 6(3) + \frac{(3)^2}{2} - \frac{(3)^3}{3}$	1	
		$s = \frac{27}{2} \text{ m}$	1	

		$jarak = 9$ $15 - \frac{9}{2} - 9 - 3$ $\frac{3}{2}m$	1 1 1	
--	--	---	----------------------------------	--

Sumber : Modul Gempur | Kertas 2 | Set 2 | Soalan 12