Us = 214250 =1.45 $\theta + \beta = 90^{\circ}$ $\theta = 90^{\circ} - \phi$ Asin $\theta = n_{w} \sin \phi$ $n = 1 \sin (90^{\circ} - \beta) = 1.35 \sin \beta = 1.33 \sin (90^{\circ} - \delta)$ 3) $sin\theta = 1-33\cos\theta$ $tan \theta = 1-33$ $\theta = 53.1^{\circ}$ $\frac{\sin \theta}{\sin \theta} = 1.52 \quad n_0 \sin \theta = n_w \sin 90^{\circ}$ $\theta = \frac{\sin \theta}{\sin \theta} = \frac{1.83 \sin 90^{\circ}}{1.52}$ $\theta = 61 - 0^{\circ}$ $\frac{\sin \theta}{\sin \theta} = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.52 \sin \theta = 1.33 \sin 90^{\circ}$ $\frac{1.33}{1.52} = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.52 \sin 90^{\circ} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.52 \sin 90^{\circ} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.52 \sin 90^{\circ} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.52 \sin 90^{\circ} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ $1.52 = \frac{\sin 90^{\circ}}{\sin 90^{\circ}} = 1.33 \sin 90^{\circ}$ 4) Dr = 4500 6)

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Las	Dale No.
(a)	
<i>(b)</i>	wr = V
(0)	$W = \frac{1}{R}$
	$=\frac{15}{9.5}$
	$=(-8 \text{ rado}^{-1})$
010	$C = \frac{1}{2} M v^2 + \frac{1}{2} I w^2$
	$=\frac{1}{2}MV^2+\frac{1}{2}$
	= - \(\frac{1}{2}m\)U'
	$=\frac{3}{3}(1.9)(0.15)$
	= 0-0295
29)	$ \frac{Ngh = \frac{1}{2}mV^2 + \frac{1}{2}IW^2}{= \frac{1}{2}(mV^2 + I\frac{1}{2})} $
	= = (MV+ 1 to)
	$= \frac{1}{2} \left(m + \frac{\pi}{R^2} \right) V^2$ $+\log p = J = mR^2$
	disk: $I = \frac{1}{2}mR^2$ There: $I = \frac{2}{5}mR^2$ appliere reaches bottom first My sind $f = m\alpha$ (1) My sind $\alpha = g \sin \theta - \frac{f}{m}$
	- a Mark machon bottom brint
301)	(1) = AM = 7- Rois and Fac
	$\alpha = 9500 - \frac{1}{2}$
	4 A
36)	$T=I^{\infty}$ $FR=I^{\infty}$
	FR=IX
	$= \frac{7}{R}$ $f = \frac{1}{R^2} A \qquad (7)$
	$+ = \frac{1}{R^2} A - (7)$
	mg sind - R2 OI - Ma
	$Mg \sin \theta - \frac{T}{R^2}\Omega = MQ$ $Q = \frac{mg \sin \theta}{(m + \frac{T}{R^2})}$ $f = \frac{T}{R^2} \left(\frac{mg \sin \theta}{(m + \frac{T}{R^2})} \right)$

	Date	No.
3c)	V'= U'+ Zas	5 S
69	(an in the 20 in 10 0 f	
09	(048 M / E - gall m / E	
	$mV^2 + TU^2 = 7 mo \left(\frac{3V^2}{2}\right)$	
	$ \begin{array}{rcl} (0.8 \text{ in } E &= 9a \text{ in } \text{ in } PE \\ \frac{1}{2}mv^2 + \frac{1}{2}Iw^2 &= mgh \\ mv^2 + Iw^2 &= 2mg\left(\frac{3v^2}{4g}\right) \\ mv^2 + \frac{Iv^2}{R^2} &= 2mg\left(\frac{3}{4g}\right) \end{array} $	
	$\frac{T}{R^2} = \frac{3}{2}M - M$	
	I = 1/2 MRZ	
65)	Circular disc	. ()
7a)	KEgain = PElost $= mgR$	
	TN = mgR	
76)	$\frac{1}{2}mv^2 + \frac{1}{2}Iw^2 = \frac{1}{2}mv^2 + \frac{1}{5}mv^2$ $\int = \frac{2}{5}mf^2$	
70)		
	$=\frac{2}{(0.00)^2}$ $=\frac{2}{10.00}$ $=\frac{2}{10.00}$ $=\frac{2}{10.00}$ $=\frac{2}{10.00}$	
	 7	
70)	= (mu+ (=)m=mgR	
-	= (mu+ (=)m=mgR	
	$\frac{V^2 = \frac{10}{7}g}{N - mg} = \frac{mv^2}{R}$ $= \frac{17}{7} mg$	U
	N-mg = m	
	N=Mg+ mv	
	7, Ng	
Fai	10 (628) 1	,
0 00	$\frac{1}{\sqrt{m}} \frac{1}{\sqrt{m}} = \frac{mv}{\sqrt{m}} = mv$,
	no the for offert to be in contact 127-78	
	N > 0	
	$\frac{N>0}{R}>mg$	
	$V^2 > Rg$	
	$n_{y}(h-2R) = \frac{1}{2}mv^{2} + \frac{1}{2}Iw^{2}$	
	$V^{2} > Rg$ $Ny (h-7R) = \frac{1}{2}Mv^{2} + \frac{1}{2}Iw^{2}$ $Mg(h-2R) = \frac{1}{10}Mv^{2}$ $V^{2} = \frac{10}{7}(h-2R)g$	
	$V^2 = \frac{10}{7} \left(h - 2R \right) g /$	

		Date	No.
88)	$Mg(5R) = \frac{mV^2}{R} Mg(5R) = \frac{7}{6} mV^2$		
V	V2 -00 PR	¥.	
	$N = \frac{mv^2}{R}$		
	$Mg(5R) = \frac{mv^2}{R} \qquad Mg(5R) = \frac{7}{6} mv^2$ $V = \frac{mv^2}{R}$ $I = M(\frac{50}{7})g$	7	V .
9a)	$V_{A} = V_{B}$ $W_{A}^{R_{A}} = W_{B}R_{g}$ $\frac{W_{P}}{W_{B}} = \frac{R_{0}}{R_{A}}$ $= 3$,
	WARA = WBRS		
	$\frac{W_{P}}{W_{B}} = \frac{R_{0}}{R_{A}}$	1041	
0	IA WA - IB WB IP - WB IP - WB		0 1
1	If wh	No.	10 g 10 0
	= 13	* - *	
0.11	17 7. 172		
96)	= 1 Inux = 1 Inux = 1 Inux		
	$\frac{1}{4}W_A - \frac{1}{2}W_B^2$		
	$ \frac{Z_{A}W_{A}^{2}}{I_{A}W_{A}^{2}} = \frac{I_{B}W_{B}^{2}}{I_{B}} $ $ \frac{Z_{A}}{I_{B}} = \frac{W_{B}^{2}}{W_{A}^{2}} $ $ = \frac{I_{A}^{2}}{I_{B}^{2}} $ $ = \frac{I_{A}^{2}}{I_{B}^{2}} $	Pr	H
	$= R_R^2$		
	4		
4 on)	L=IW		1
700	= = = mR2W		
	= 7-1×1033 kgm35-1		
(4)	L=MVr		
	= m wr2		
	= (5 M8 X10 24) (365-4)(24)(3600))		
	= 2.7 × 10 to logn25		
	v .		
5)	(i = (I+) Wi + MVI d		9
	$= \left(\frac{1}{12} \left(\frac{m}{2}\right) l^2 + \frac{1}{2} \left(\frac{m}{2}\right) l^2\right) w_i + m v_i d$		
	$= \frac{m}{l^2} (2d)^2 W_i + M V_i d$		
	$L_f = \left(\frac{m}{12} \left(zd \right)^2 + m d^2 \right) W_f$		

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129	Lc = my R		
	Les = - I Wo		
		*	
	$L_F = (mR^2 + I)W$ $mVR - IW_0 = (mR^2 + I)W$		
	$mVR-LW_0 = mR^2+L)w$		
•	W = MVR-IWO mR2+I	Ŷ.	
(3)			41
(0)	$Mgh = \frac{1}{2}my^2$ $V^2 = 2gh$		
	$myl = (\frac{1}{3}ml^2 + ml^2)ul^2$ (M)		
	$\frac{1}{2}(\frac{1}{2}M1^{2}x^{2}+1^{2}x^{2})=(m+m)$ of $(1-COLD)$		
	Chreat A don		
	$myl = (\frac{1}{3}ml^2 + ml^2)w^2 (asc)$ $\frac{1}{2}(\frac{1}{3}ml^2w^2 + ml^2w^2) = (m+m)gl(1-\cos\theta)$ $Cuyev ! A graying $ Rot (t		
	Numer'	1	
		ii .	
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		7	