47_ YASH JARANG



	7 T_ YASH JAKANG				
	Assignment 2 : Centroid				
<u></u>	Determine the centre of gravity of the shaded area.				
,	1 som				
	R-50				
	90mm				
	D1				
	G ₃ G ₂ 40				
	01				
	Part Area Co-ordinates of G Are Az G:				
ide de	Rectargle 60x50 3 6.5 90 195 $G_4 = (3,6.5)$				
245.600 - 1100 - 1100	Rectargle 110×40 5.5 2 242 88 G12 = (5.5,1)				
3) 4)	Triangle - 1x75x90 2.5 3 -84.37 -101.2 G3 = (2.5,3) Quarter aircle 415x502 8.122 6.122 159.4 120.2 Gi = (8.122,6.12)				
	$\bar{x} = \sum Ax = 407.03 = 6.797 \text{ cm}$				
	ZA 59.88				
710	$Y = \sum A_{Y} = 302 = 5.043 \text{ cm}.$ $EA 59.88$				
	:. Centre of gravity of the body $G = (6,797, 5.043)$,				
	0070				

	- mar Onlying					
- 3)	Determine the centroid of the shooted portion					
	14					
	h=8ta.60°					
	= 13.856 cm.					
	G ₂ /					
	1/7/					
	3cm 5cm					
	01/60					
	·G 800/ 2					
	9/9//					
	Part Area (un) Goodfrades Ax Ax					
	$\chi \gamma (cm^3) (cm^3)$					
	Semicircle = 1 8 0 -3,395 0 -3413					
2)	Seminde -= 3 -5 -1.273 295.4 255.					
3)	1 angled triangle = 1x8x13.856 5.33 4.619 70.68 18					
S. A. A.	ΣA = 141.81 ΣA = 366 ΣA = -673					
1 6 9	The second contract of					
100000	$= \sum A_{x} = \sum A_{x} = 366 = 0.581 \text{ cm}$					
Sa Alaman	EA 141.81					
	$\bar{z} = \sum A_{v} = -67.3 = -0.474c$					
	1					
	: Central of given body G = (2.581, -0.474)					
	V V					

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3)	Determine the centroid of plane	ABODE WY	LA.	* 1/* 1
	4 × E	D		
	/			
		1		
		, Jan 199		
		G _i		
	/	91 Sem		
	Gu_			
		A CONTRACTOR		
		- R3	1.000	
	1	H		
	OA BH	>	2	
	6 6 m	3cm	4.5	
		Coordinates (x, y)	Ax	A,
	Post Area uni	(5,4)	80	61
9	Recturge	(2667, 2667)	42.67	42.67
	1	(4,427, 1.273)	-33.41	-9
3)_	Quarter arche - 4 1 32	9 40 July 4 A 4		
•	ΣA = 24.932		ΣAx=89.26	∑Ay= 97.6
	• = 5Ax - 89.26 =	3,58 cm.		
		3.917		
	Y - ZHY = 14.932	Sittia.		
	The second second second second second			
	: Controid G = (3.58	3.91#)		
	Controla 9 - (3.38) 57(11) cm		

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4	Find the centroid of shoded region
	U U
	↑ ↑
	20cm . Gi
	- G ₁₂
	0 -10 cm -1 >2
A	1-coert Arca cm² Coordinates Az Ay
Let	Charter ande 1/4 Tt 202 8,488 8.488 2666.6 2666.6
بر ب	Schi circle - 1/2 Tt 102 10 4.244 -1570.5 -666.6
	CONTRACTOR OF THE PROPERTY OF
e se la company	$\Sigma A = 157.08$ $\Sigma A_{\chi} = 1095.8$ $\Sigma A_{\psi} = 2000$
	ΣΛ 100cp 0.00ss
	$7z = \sum A_{1}z = \frac{1095.8}{157.08} = \frac{12.73}{12.08}$ $7z = \sum A_{1}z = \frac{2000}{12.08} = \frac{12.73}{12.08}$
	y= ∑Ay = 2000 = 12.73 cm.
	≥A (57-08
	: Centroid G = (6.976, 12.730) cm