

HP-35s Calculator Program –

MOHR'S CIRCLE

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Line	Instruction	Process	User Instruction
M001	LBL M	Establishing the library	
M002	MOHRS CIRCLE		Key in using EQN, RCL M, RCL O, et
M003	PSE		Assuring 0 value for D & I
M004	SOLVE PRINCIPAL		Key in using EQN, RCL S, RCL O, et
M005	PSE		
M006	INPUT M	Input value 1=Yes, 0=No	x
M007	x=0?		÷
M008	GTO M061		√x
M009	INPUT T	Enter the value of Shear τ	
M010	INPUT X	Enter the value of Stress σ_x	
M011	INPUT Y	Enter the value of Stress σ_y	
M012	+		
M013	2		
M014	+		
M015	STO S	Centerpoint of circle	
M016	RCL X	Solving for circle's radius (hence T max) as well as	
M017	RCL Y	principal stresses	
M018	-		
M019	2		
M020	÷		
M021	x^2		Nomenclature:
M022	RCL T		
M023	x^2		M = Stress Max
M024	+		N = Stress min
M025	√x		Q = Angle Θ
M026	STO R	Radius	R = Radius
M027	CLSTK		S = Center point
M028	RCL R		T = Shear Max OR Shear at angle Θ
M029	RCL S		X = σ_x
M030	+		Y = σ_y
M031	STO M	Maximum	
M032	RCL S		
M033	RCL R		
M034	-		
M035	STO N	Minimum	
M036	SIGMA MAX		
M037	PSE		
M038	VIEW M	Viewing σ_{max}	
M039	SIGMA MIN		
M040	PSE		
M041	VIEW N	Viewing σ_{min}	
M042	RCL X		
M043	RCL Y		
M044	-		
M045	1/x		
M046	2		
M047	x		
M048	RCL T		
M049	x		
M050	ATAN		
M051	2		
M052	÷		
M053	STO Q		
M054	ANGLE		
M055	PSE		
M056	VIEW Q	Viewing angle	
M057	T MAX		
M058	PSE		
M059	VIEW R	Viewing maximum shear	
M060	GTO M119		
M061	SOLVE X,Y,T		

M062	PSE	
M063	INPUT M	
M064	X=0?	
M065	GTO M004	
M066	CLSTK	
M067	STO M	
M068	STO N	
M069	STO Q	
M070	ANGLE Q	
M071	PSE	
M072	INPUT Q	Enter angle
M073	SIGMA MAX	
M074	PSE	
M075	INPUT M	Enter σ max
M076	SIGMA MIN	
M077	PSE	
M078	INPUT N	Enter σ min
M079	-	Solving for Radius
M080	2	
M081	÷	
M082	STO R	
M083	VIEW R	Viewing Radius
M084	+/-	Solving for Centerpoint
M085	RCL M	
M086	+	
M087	STO S	
M088	VIEW S	Viewing Centerpoint
M089	RCLQ	Solving for σ_y
M090	2	
M091	x	
M092	COS	
M093	RCL R	
M094	x	
M095	RCL S	
M096	-	
M097	+/-	
M098	STO Y	Storing σ_y
M099	RCL S	Solving for σ_x
M100	2	
M101	x	
M102	-	
M103	+/-	
M104	STO X	Storing σ_x
M105	RCL Q	Solving for Shear
M106	2	
M107	x	
M108	TAN	
M109	RCL X	
M110	RCL Y	
M111	-	
M112	x	
M113	2	
M114	÷	
M115	STO T	Storing Shear
M116	VIEW X	Viewing σ_x
M117	VIEW Y	Viewing σ_y
M118	VIEW T	Viewing τ
M119	STOP	
M120	RTN	