For the Direct Shear Test results shown below, draw the stress-deformation results and find shear strength parameters for the sandy soil sample.

Item	Quantity
Specimen Length, L (in)	2
Specimen Width, B (in)	2
Specimen Height, H (in)	1.31
Mass of Porcelain dish + dry sand (before use), M_1 (g)	540.3
Mass of Porcelain dish + dry sand (after use), M_2 (g)	397.2
Dry unit weight of specimen, γ_d (pcf)	104
Specific gravity of soil solids, G_s	2.66
Void ratio, e	0.596

Normal effective stress (psi)	Horizontal Displacement (in)	Vertical Displacement* (in)	No. of div in Proving Ring Dial Gauge	Proving Ring Cali-bration Factor (lb/div.)	Shear Force S (lb)	Shear Stress τ (psi)
14.00	0.00	0.000	0	0.31		
14.00	0.01	0.001	45	0.31		
14.00	0.02	0.002	76	0.31		
14.00	0.03	0.004	95	0.31		
14.00	0.04	0.006	112	0.31		
14.00	0.05	0.008	124	0.31		
14.00	0.06	0.009	129	0.31		
14.00	0.07	0.010	125	0.31		
14.00	0.08	0.010	119	0.31		
14.00	0.09	0.009	114	0.31		
14.00	0.10	0.008	109	0.31		
14.00	0.11	0.008	108	0.31		
14.00	0.12	0.008	105	0.31		
* All Vertical Displacements are positive meaning expansion						

Test #	Shear Stress τ (psi)	Normal Stress σ (psi)
1	4	7
2		
3	19	28

Given the information above, calculate the shear stress and normal stress for test #2. Plot all three test points on to the "shear stress vs normal stress" graph. Find the angle of internal shear friction (ϕ) of the sample. The test sample was dry sand.