Problem grading spreadsheet.

NDID	Problem 1 — 5 (2 for liquid, 3 for sketch)	P2 a)7	P2 b)8 (need reduced T, P)	P3 a)7	P3 b)8	P4 a)6	P4 b)6	P4 c)6	P4 d)6	P4 e)6	P5 a)5	P5 b)5	P5 c)10	P5 d)15	Final Grade
902101705	5	7	8	7	8	6	6	6	6	6	5	5	10	15	100
902079535	5	7	8	7	8	6	6	6	6	6 missing P1(V2-V1) in final answer	5	5	10	15	99
902083647	5	7	8	7	8	6	6	6	5 y relation not quite	5 y, v relation	5	5	10	15	98
902089456	5	7	8	7	8	6	6	6	5 see soln	5 see soln (A^3)	5	5	10	14 2-3 back under dome	97
902048494	4 indicate direction/tables	7	8	7	8	6	6	6	5 Very close, algebra error	5 Algebra error	5	5	10	14 Tv- 2-3 should have curve after leaving VD	96
902047444	5	7	8	7	8	6	6	6	6	3 missing an A in denoms	5	5	10	12 Tv plot has issues	94
902086884	5	7	8	7	6 v from tables incorrect	6	6	6	6	6	6 need to interpolate	5	10	13 1 to 2 is compression	94
902118299	5	7	8	7	8	6	6	6	6	6	5	5	10	15	92
902011187	5	4 n wrong	6 z not right	7	8	6	6	6	1 see soln.	6	5	5	10	11 T-v not right	91
902085155	5	7	8	7	8	6	6	6	6	4 not quite	5	5	6 not an ideal gas!	15	91
902103813	5	7	8	7	8	6	6	6	3 y is incorrect	3 see soln	5	5	10	12 Tv and PT a little off	91
902085075	5	7	8	7	8	6	6	6	3 need relation between V and y	3	5	5	5	14 T-v plane off a little	88
902046468	5	7	8	5 see soln	8	6	6	6	3 see soln	4 see soln	1 not an ideal gas!	5	6 not an ideal gas!	15	87
902086259	5	7	8	7	8	6	6	6	2 V2 needs to be involved	1 see soln	5	5	6 not an ideal gas!	15	87
902102015	5	7	2 See solution	7	8	6	6	6	6	3 see soln.	5	5	10	14 Tv - horizontal under VD	87
902078018	calculation error	6 unit	7 unit	7	8	6	6	6	6	1 for the equation	5	4	7 calculation error	11 P-T wrong phase	85
902093809	0 Missing	7	8	7	8	6	6	6	1 see soln	3 interpolate	5	5	8 see soln	14 see soln	85
902104511	3 wrong final state, wrong PT diagram	6 wrong unit	7 wrong unit	7	8	6	4 inverse of answer	6	5 see soln	4 see soln	3 interpolate	5	9 multiply by mass	11 see soln	84
902038604	5	7	8	7	8	6	6	6	2 replace y	2 see soln	3 interpolate	5	8 see soln	11 starting point on dome, pt 3 not under dome	84
902101399	5 not an ideal gas!	7	8	7	2	6	6	6	6	2	2	5	5 not an ideal gas!, see soln	10 see soln	82
902058255	5	6 units not correct	7 units not correct	7	8	6	6	6	0 blank	0 blank	5	5 need to interpolate	8 calculation error	12 T-v off, P-v point 1 wrong	81
902086591	5	7	8	7	8	6	2 Need to sub v1 in	6	3 y is incorrect, need V1	3 See soln.	3 need to interpolate	5	6 Work 1 to 2 incorrect	12 starts on saturation curve	81
902100614	5	7	8	7	8	6	6	6	3 need relation between V and y	0 see soln, not polytropic	2 see soln	5	6 see soln	11 initial state is on the dome	80
902089142	5	7	7 wrong R	7	8	6	4 inverse of answer	6	5 see soln	5 see soln	1 no ideal gas	1 use tables	5 see soln, and multiply by mass	12 see soln	79
902089355	5	4 wrong application of R	7 wrong R	7	8	6	6	6	4 see soln	1 see soln	3 interpolate	5	6 see soln	11 see soln	79
902089724	4 draw second point	7	7 wrong Z	7	8	6	6	6	2 replace y	2 see soln	3 interpolate	5	8 1w2 use v2 not v3, no 1/2 in 2w3	8 see soln	79
902083668	5	7	6 Z not right	7	8	6	6	6	2	1 for equation	5	5	9 calculation of 1-2	4	77
902084746	4 2nd point needs identified	7	8	7	8	6	0	6	3 y-v relation	4 y-v relation wrong	3	5	6 see soln	10 see soln	77
902085080	5 finish the problem	7	8	7	8	6	6	6	3 need relation between V and y	3	1 not an ideal gas!	5	2 finish the problem	10 see soln	77
902152656	5	7	8	7	8	6	6	2 see soln	1 See soln.	1 see soln	3 interpolate	5	6 see soln for 1w2	12 starting point on dome	77
902152289	5	7	8	7	8	6	6	6	6	1	0	5	7 see soln	6 see soln	75
902086966	4 Indicate direction/tables	7	8	7	8	6	6	6	3 need relation between V and y	3 see soln	3 interpolation is incorrect	5	5 need to compute w 1 to 2	3 see soln	74
902088647	5	7	6 Need total volume	7	8	6	6	6	3 y is incorrect	4 close, see soln	3 interpolate	5	3 see soln	5 see soln	74
902086334	4 T2 must equal T1	7	8	7	8	6	2 see soln	6	0 see soln	1 see soln	1 not an ideal gas	5	8 see soln	6 see soln	73
902099315	5	7	6 z not right, calculation	7	8	6	6	6	3 y-v relation	1	2 wrong data	5	4 1-2 not correct, 2-3 wrong calculat	5 see solution	71
902084809	4 phase diagram has big errors	7	8	7	8	6	0	6	3 y-v relation	2 y-v relation wrong, pdv int	1 not an ideal gas	5	9 right method, wrong values	10 1 on sat. curve, 2-3 goes under dome	70
902091063	5	7	8	7	8	6	6	6	6	1 see soln	1 use table not ideal gas	1 use tables	2 see soln	6 right shapes, wrong spots	70
902046915	3 wrong sketch, wrong phase	6 off by factor, unit problem	7 off by a factor	7	8	6	6	6	3 need relation between V and y	3	5	0	2 see soln	7 see soln	69
902088001	3 liquid, regions incorrect	6 Calculator error	7 Calculator error	7	6 v from tables incorrect	6	6	6	3 need relation between V and y	3 see soln	1 see soln	5	2 see soln	8 see soln	69
902087548	4 indicate direction/tables	7	6 mixed up R and m vals	7	8	6	6	6	3 need relation between V and y	2 see soln	3 interpolate	5	0 see soln	2 see soln	67
902088766	5	7	8	7	8	6	2 see soln	6	2 replace y	3 see soln	5	5	1 see soln	1 see soln	67
902086239	5	7	8	7	8	6	2 see soln	6	2 see soln	1 see soln	0	5	0	13	65
902104152	4 Draw the second point	7	7 wrong R	5 wrong R	6 interpolation error/wrong values	5 should have P1 not V1	4 plug in v1	6	2 see soln	2 see soln	1 no ideal gas	1 no ideal gas	6 see soln	6 see soln	64
902103643	5	7	6 Read table incorrectly, unit issue	5 Incorrect R	6 v from tables incorrect	6	2 Need to sub v1 in	6	1 see soln.	1 see soln	3 need to interpolate	5	3 see soln	6 see soln	62
902037801	3	4 wrong application of R	4 right idea, wrong answer, no numbers	4 wrong equation	8	6	2 see soln	5 Patm in terms of P1	2 see soln	1 see soln	3 interpolate	2 read right from table	6 see soln	10 see soln	62
902079473	5	7	7 Calculation error	6 R not right	3 interpolation not right	6	6	6	5 y not quite right	2 y-v relation wrong, pdv int	1	5	3	3	60
902088025	5	7	7 Read table incorrectly	7	6	6	2 see soln	6	3 need relation between V and y	3 see soln	3 interpolate	5	2 see soln	3 see soln	60
902101438	5	7	8	7	8	2 molecular density??	2 see soln	6	2 see soln	1 see soln	1 not an ideal gas	5	1 see soln	1 see soln	59
902084016	1 wrong phase wrong sketch	7	0 blank	7	6 wrong table	6	6	3	1		5	5	4 not ideal gas, 2-3 calculation	7 see solution	58
901974848	6	0		7	8	6	6	3 y-v relation	0	5	5	0	5 see solution	56
902087815	2 liquid, label points, regions incorrect	6 Calculator error	8	7	8	6	0 see soln.	6	0 see soln	0 see soln	1 see soln	1 see soln	2 see soln	3 see soln	53
902087242	3 liquid, label regions	7	2 See solution	7	8	6	2 Need to sub v1 in	6	0 see soln.	0 see soln	3 need to interpolate	0 see soln	3 see soln	52
902084641	5	7	4 only for Tr and Pr	0 blank	0 blank	6	6	6	3 y-v	0	5	5	4	51
902085368	5	4 see soln	7 see soln	7	8	6	6	4 see soln	1 see soln	1 see soln	0 not an ideal gas!	0 not an ideal gas	4 see soln	4 see soln	51
902090532	3 draw process, starts at triple point	4 see soln	7 see soln	7	7 interpolation error	1 see soln	5 see soln	5 P1	2 see soln	2 see soln	3 see soln	0 missing	2 see soln	51
902079468	not ideal gas	4 see soln	0 nothing right	5 R not right	8	6	0	0	0	3 not ideal gas, 1-2 pressure	3 see solution	50
902063721	2 Wrong final state, wrong PT diagram, missing second point	7	8	4 no M necessary	4 no M	2 see soln	4 see soln	5 missing initial P and initial V	0	2 see soln	1 see soln	50
902098025	2	4 n not taken right	1 for writing equation	7	6 wrong table	4 wrong calc	3 wrong calc	3 relation between y and v	4 almost	5	0 not ideal gas	1	2 see solution	48
902095687		4 see soln	7 see soln	7	8	6	3	1 See soln	0	1	0	0	48
902095902	2 wrong phase, sketch in error	3 see soln	4 see soln	7	8	6	0 see soln	6	0 see soln	0 see soln	1 see soln	1 see soln	4 see soln	47
902105631	4 draw second point	4 right idea, wrong answer, no numbers	2 no interpolation	1 see soln	1 see soln	0 see soln	2 see soln	2 see soln	0 missing	0 missing	1 see soln	34
902084173															0
Average	4.34426	6.6475409	6.37704	6.688524	7.442622	5.68852	4.27868	5.57377	3.032786	2.42622	3.09836	3.91803	8.52459	20.7704918	71.91935484
	Problem 1 Average	Problem 2 Average 12.85245902		Problem 3 Average 14.13114754		Problem 4 Average 21					Problem 5 Average 5.22958				