

Quiz 5

This is a two-stage quiz. During the first stage, use your knowledge & calculator. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have the remainder of the quiz time to write one solution (with everyone's name on it!!!) to be turned in for the group.

- Consider the table below listing the Heat Index (I).

Table 1 Heat Index I As a Function of Temperature and Humidity

		Relative humidity (%)								
Actual temperature (°F)	$T \backslash H$	50	55	60	65	70	75	80	85	90
	90	96	98	100	103	106	109	112	115	119
92	100	103	105	108	112	115	119	123	128	
94	104	107	111	114	118	122	127	132	137	
96	109	113	116	121	125	130	135	141	146	
98	114	118	123	127	133	138	144	150	157	
100	119	124	129	135	141	147	154	161	168	

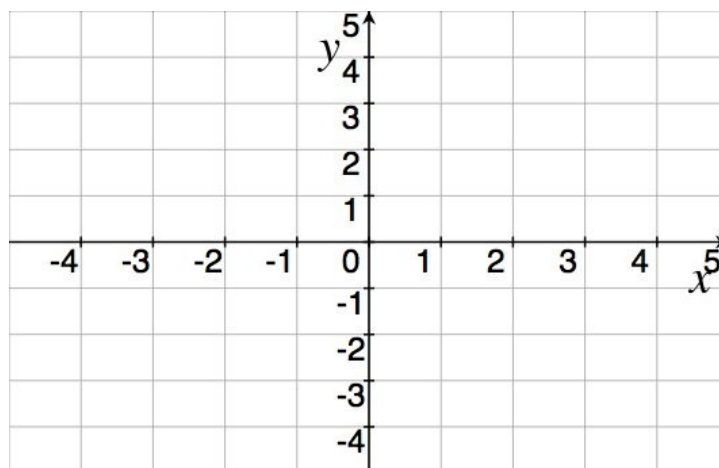
- [2] Is I a function of T and H ? Why or why not?

- [2] Approximate $\frac{\partial I}{\partial T} \big|_{(96,70)}$

- Consider $F(x, y) = \cos(\sqrt{1 + x - y})$

- [1] Find the domain for F .

- [3] Draw sections of the contour map/the level curves of F when $z = 1$ and $z = 0$. Label the curves!



- [2] Find $F_y(x, y)$