

## Class Worksheet 09/08/22

**Example 1:** Windchill temperature is a temperature which tells you how cold it feels as a result of the combination of wind and temperature. Let  $C = f(w, T)$ , where  $C$  is the windchill temperature (in degrees Fahrenheit) that is associated with a wind speed of  $w$  miles per hour and a temperature of  $T$  degrees Fahrenheit. A table of values for the function  $f$  is given to the right:

$w \setminus T$	35	30	25	20	15	10	5	0
5	31	25	19	13	7	1	-5	-11
10	27	21	15	9	3	-4	-10	-16
15	25	19	13	6	0	-7	-13	-19
20	24	17	11	4	-2	-9	-15	-22
25	23	16	9	3	-4	-11	-17	-24

(a) Evaluate and interpret  $f(20, 5)$ .

(b) How fast does the wind need to blow for it to feel like  $-10^\circ\text{F}$  when the air temperature is really  $5^\circ\text{F}$ ?

**Example 2:** Find an equation of the sphere centered at  $(1, 2, -1)$  with radius 3. With  $z$ -axis being vertical, find the highest and the lowest point on the sphere.

**Example 3:** Sketch and describe in words the plane  $y = 3$  and the plane  $x = 2$ .

