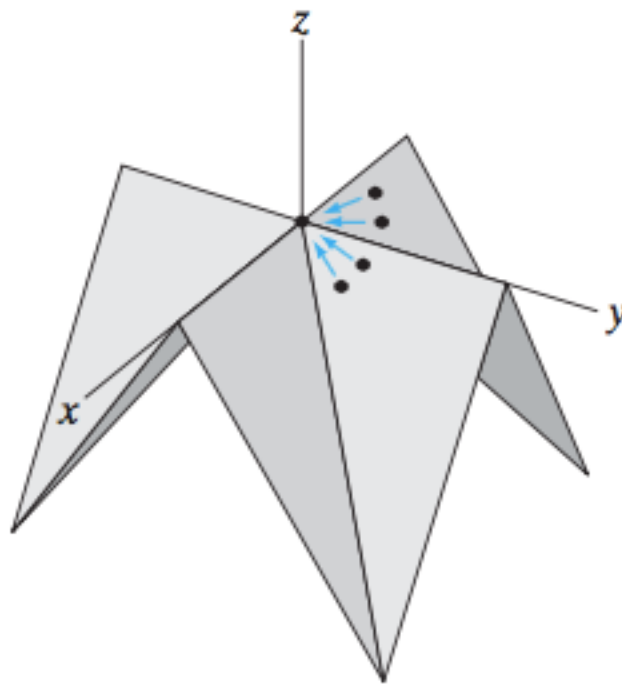


bc. f diffble

Note: existence of total derivative
is stronger than existence of partials.



partials might
exist but
total deriv
doesn't.

But, we do have the following:

Thm (A way to know if f diffble at \bar{a})

Sps $f: \mathbb{R}^n \rightarrow \mathbb{R}$. Sps f_{x_i} exists and

is continuous at \bar{a} for all $i=1, \dots, n$.

Then f is diffble at \bar{a} .