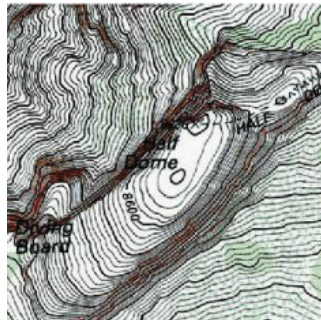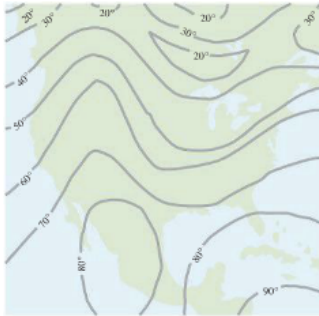# 3D Functions

While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

1. Determine which of the following define z as a function of x and y. If a function, determine its domain.

$$z = \ln(xy) \qquad\qquad z^2 + 4 = x^2 + \frac{y^3}{2} \qquad\qquad zxy = x + y$$

2. For each of the following, find the domain, range, and match the function with it's level curves.

$$f(x,y) = y - x \qquad\qquad g(x,y) = \sqrt{25 - x^2 - y^2} \qquad\qquad h(x,y) = e^{-x^2 - y^2}$$