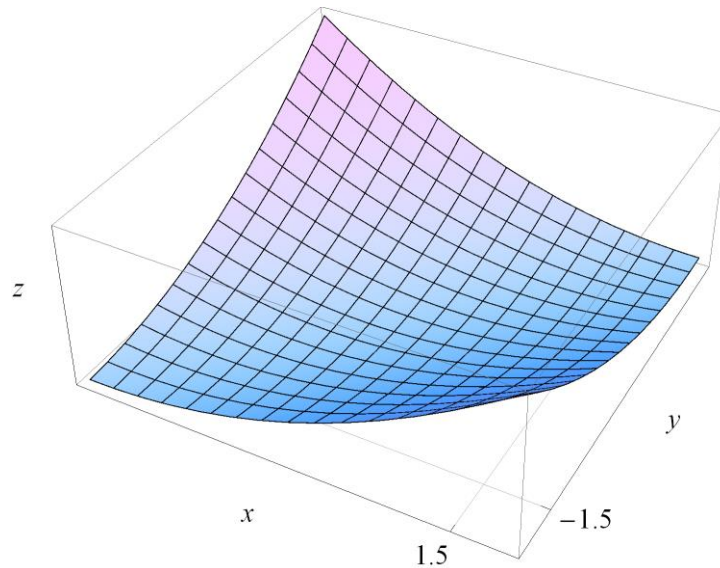


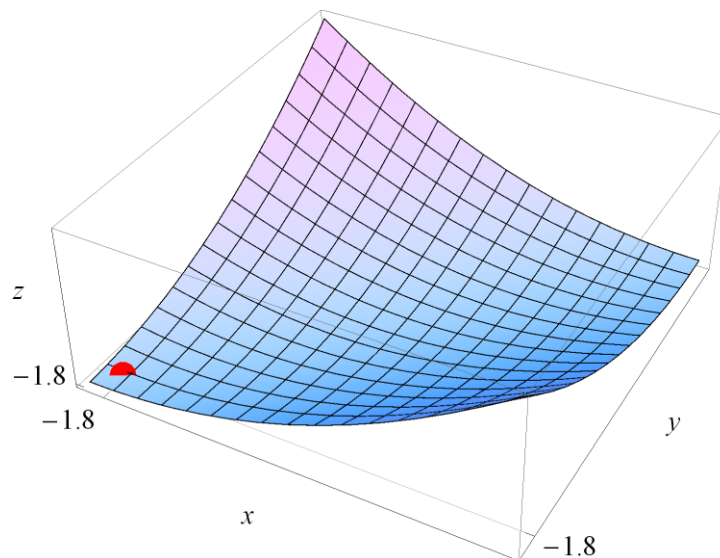
ACTIVITY #11 – GRADIENT VECTOR

Name: _____

1. The following is the graph of $z = f(x, y)$. Draw the gradient vector $\nabla f(1.5, -1.5)$ and vector $-\nabla f(1.5, -1.5)$ as part of the figure (as best you can). Also include in your drawing part of the level curve that corresponds to $f(1.5, -1.5)$.



2. The following is the graph of $F(x, y, z) = 4$. Note that $F(-1.8, -1.8, -1.8) = 4$. How may the gradient vector $\nabla F(-1.8, -1.8, -1.8)$ look? How is it related to the surface? Draw as part of the figure (the best you can) a vector that could represent the gradient vector $\nabla F(-1.8, -1.8, -1.8)$.



3. Explain the relation between problems 1 and 2.

