Math 254N SUGGESTED EXERCISES **3 May 2018**

Use the Surface Graphs and Contour Graphs handouts for the following. **Answers are on the second page.**

1. Give the Roman numeral of the contour graph that represents the same function whose surface graph is given. Some may not have a corresponding contour graph - that is indicated in the answers by NS, for not shown.

   F J M P

2. Give the letter of the surface graph that represents the function whose contour graph is given. Some may not have a corresponding contour graph - that is indicated in the answers by NS, for not shown.

   XII XV V III

3. Give the Roman numeral of the contour graph for the function with the given equation.

   (a) $f(x, y) = x + y$

   (b) $z = -x^2 - y$

   (c) $z = -x^2 - y^2$

   (d) $f(x, y) = y^2 - x^2$

4. Give the letter of the surface graph for the function with the given equation.

   (a) $f(x, y) = y - x^2$

   (b) $z = x + y^2$

   (c) $f(x, y) = y^2 - x^2$

   (d) $z = -y^2$

Answers:

1. XIII II NS VIII
2. B H E K
3. (a) I (b) XI (c) XVI (d) XIV
4. (a) M (b) L (c) D (d) C