

**Homework Set 2**

DUE: FEB 10, 2020 (AT THE BEGINNING OF CLASS)

**To be handed in:***Please write your solution to Problems 1 and 2 on a single sheet of paper!*

1. Write the equation of the plane in  $\mathbb{R}^3$  that passes through the points  $P = (2, 3, -1)$ ,  $Q = (-1, 0, 1)$ , and  $R = (1, 2, 1)$ .
  
2. Classify the following conics:
  - a)  $z = x^2 + 2y^2$
  - b)  $z^2 = x^2 + 2y^2$
  - c)  $x^2 + 2y^2 + z^2 = 1$

NOT to be handed in (but recommended for you to practice with):

3. Textbook (5th edition) Section 11.5, Exercises 15-19, 47-50
  
4. Textbook (5th edition) Section 11.6, Exercises 1-6, 9-14