

1., 2. (graded) Following the lines of the handout from 10/20/04 on $z = xy$, calculate the shape operator for $z = x^2 + y^2$ at a general point $(a, b, a^2 + b^2)$.

3. – (graded) p.222 – 2.

4. – (graded) p.222 – 4.

5. – (graded) p.223 – 7.

6. – (bonus) p. 213 – 2.

7. – (bonus) p. 222 – 12.