

Chapter 23: Complex Numbers

Worksheet to accompany

David Feldman, *Chaos and Fractals: An Elementary Introduction*,
Oxford University Press, 2012

Consider the following numbers:

$$z_1 = 1 + i, \quad z_2 = -2 + 2i, \quad z_3 = 1 + 2i, \quad z_4 = 2i, \quad z_5 = -3.$$

1. Compute the following:

(a) $z_1 + z_2$

(b) $z_2 - z_3$

(c) $z_3 + z_1$

(d) $z_1 + z_4$

(e) $2z_2$

(f) $z_2 + z_5$

2. Compute the following:

(a) $z_1 z_2$

(b) $z_2 z_1$

(c) $z_1 z_3$

(d) z_1^2

(e) z_2^2

(f) z_3^2

3. Plot the three numbers z_1, z_2, z_3 on the complex plane. On the same plot show your answers to question 2.