

COMPLEX NUMBERS

LAST NAME	FIRST NAME	DATE
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1 (10 points). Simplify expressions and state answers in the form $a + bi$

(a) $(3 + 6i) + (7 + 14i)$

(f) $(2i)^3$

(b) $(5 - 3i) + (-2 - 4i)$

(g) $(5i)(4 - i)$

(c) $(-1 - i) - (2 - 3i)$

(h) $(-i)(6i + 3)$

(d) $(5i)(2i)$

(i) $(1 + 2i)(3 + 4i)$

(e) $(3i)^2$

(j) $(2 - 5i)(-7 - 6i)$

2 (4 points). Let the sequence be defined as follows:

$$z_1 = 0$$

$$z_k = z_{k-1}^2 + c \text{ if } k > 1$$

$$c = 2 + i$$

Find the next four members of this sequence, and state them in the form $a + bi$:

(a) $z_2 =$

(b) $z_3 =$

(c) $z_4 =$

(d) $z_5 =$