

Operations with Complex Numbers

Date _____ Period _____

Simplify.

1) $i + 6i$

2) $3 + 4 + 6i$

3) $3i + i$

4) $-8i - 7i$

5) $-1 - 8i - 4 - i$

6) $7 + i + 4 + 4$

7) $-3 + 6i - (-5 - 3i) - 8i$

8) $3 + 3i + 8 - 2i - 7$

9) $4i(-2 - 8i)$

10) $5i \cdot -i$

11) $5i \cdot i \cdot -2i$

12) $-4i \cdot 5i$

13) $(-2 - i)(4 + i)$

14) $(7 - 6i)(-8 + 3i)$

15) $7i \cdot 3i(-8 - 6i)$

16) $(4 - 5i)(4 + i)$

$$17) (2 - 4i)(-6 + 4i)$$

$$18) (-3 + 2i)(-6 - 8i)$$

$$19) (8 - 6i)(-4 - 4i)$$

$$20) (1 - 7i)^2$$

$$21) 6(-7 + 6i)(-4 + 2i)$$

$$22) (-2 - 2i)(-4 - 3i)(7 + 8i)$$

$$23) 5i + 7i \cdot i$$

$$24) (6i)^3$$

$$25) 6i \cdot -4i + 8$$

$$26) -6(4 - 6i)$$

$$27) (8 - 3i)^2$$

$$28) 3 + 7i - 3i - 4$$

$$29) -3i \cdot 6i - 3(-7 + 6i)$$

$$30) -6i(8 - 6i)(-8 - 8i)$$

Critical thinking questions:

31) How are the following problems different?

Simplify: $(2 + x)(3 - 2x)$

Simplify: $(2 + i)(3 - 2i)$

32) How are the following problems different?

Simplify: $2 + x - (3 - 2x)$

Simplify: $2 + i - (3 - 2i)$