

PRACTICE:

$$i^2 = -1$$

Operations with Complex Numbers

Simplify.

1) $i + 6i$

$$7i$$

2) $3 + 4 + 6i$

$$7 + 6i$$

3) $3i + i$

$$4i$$

4) $-8i - 7i$

$$-15i$$

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

$$-5 - 9i$$

6) $7 + i + 4 + i$

$$11 + 2i$$

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

$$2 + i$$

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

$$4 + i$$

9) $4i(-2 - 8i) \rightarrow -8i - 32i^2$
 $32 - 8i = -8i - 32(-1)$

10) $5i \cdot -i = -5i^2 = (-5)(-1)$
 $= 5$

11) $5i \cdot i \cdot -2i = 5i^2 \cdot -2i = -10i^3$
 $10i$
 $i^3 = i \cdot -1 = -i$
 $(-10)(-i)$

12) $-4i \cdot 5i = -20i^2 = (-20)(-1)$
 $= 20$

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

$$-7 - 6i$$

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

$$-38 + 69i$$

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

$$39 - 18i$$

16) $-6i(8 - 6i)(-8 - 8i)$

$$-96 + 672i$$