PRACTICE

Write each number in its proper location in the Venn diagram.

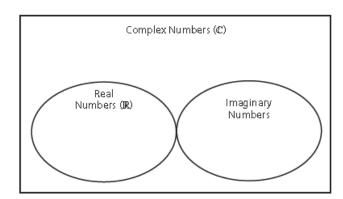**1.** $3 + i$ **2.** -17

3. $\sqrt{7}$ **4.** $9i$

5. $-6 - 5i$ **6.** $-\frac{7}{8}$

7. 6.492 **8.** $-\sqrt{-25}$

Complex Numbers ($\mathbb{C}$)

Real Numbers ($\mathbb{R}$)

Imaginary Numbers

PRACTICE

Add or subtract.

1. $10i - 2i$ _____

2. $9i - (13 + 7i)$ _____

3. $(9 - 8i) - (6 - 4i)$ _____

4. $(3 + 15i) - (-5 + i)$ _____

Multiply.

5. $-2(1 - 3i)$ _____

6. $5i(-5 + 2i)$ _____

7. $(4 - 8i)(5 - 6i)$ _____

8. $(5 + 4i)(3 + 9i)$ _____

9. $(1 + 2i)^2$ _____

10. $(2 - i)^2$ _____

11. Find the values i^1, i^2, i^3, and i^4. Use these to find the product $i^{18} \cdot i^{23}$ two ways:
(1) by simplifying each power before multiplying, and (2) by using the product
of powers property and then simplifying.

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