

Lesson 12 Practice Problems

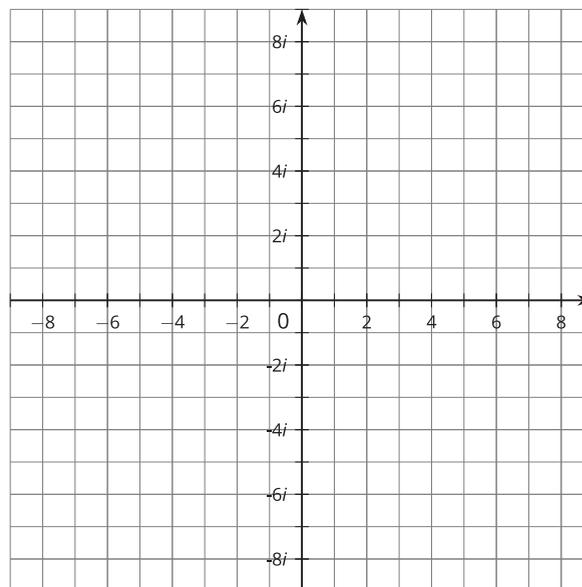
1. Write each expression in the form $a + bi$, where a and b are real numbers. You may plot the numbers in the complex plane as a guide.

a. $2 \cdot \sqrt{-4}$

b. $3i \cdot 2i$

c. i^4

d. $4 - 3\sqrt{-1}$



2. Which expression is equivalent to $(3 + 9i) - (5 - 3i)$?

A. $-2 - 12i$

B. $-2 + 12i$

C. $15 + 27i$

D. $15 - 27i$

3. What are a and b when you write $\sqrt{-16}$ in the form $a + bi$, where a and b are real numbers?

A. $a = 0, b = -4$

B. $a = 0, b = 4$

C. $a = -4, b = 0$

D. $a = 4, b = 0$

4. Fill in the boxes to make a true statement:

$$(\square - 3i) - (15 + \square i) = 7 - 12i$$

5. Plot each number on the real number line, or explain why the number is not on the real number line.

a. $\sqrt{16}$

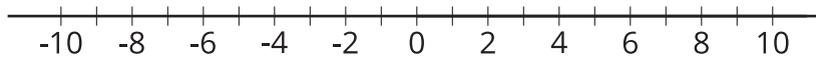
b. $-\sqrt{16}$

c. $\sqrt{-16}$

d. $56^{1/2}$

e. $-56^{1/2}$

f. $(-56)^{1/2}$



(From Unit 3, Lesson 10.)

6. Which expression is equivalent to $\sqrt{-4}$?

A. $-2i$

B. $-4i$

C. $2i$

D. $4i$

(From Unit 3, Lesson 11.)