Looking Ahead

Reviewing the main ideas related to subtraction of real numbers will allow you to understand and simplify problems involving the addition and subtraction of complex numbers.

Example Preview

Simplify the following expression.

$$(12-18i)-(5-12i)$$

Solution

$$\begin{aligned}(12-18i)-(5-12i) &= (12-5)+(-18-(-12))i \\ &= 7-6i\end{aligned}$$

2.R.3 Exercises

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. The sum of a number and its additive inverse is the number itself.

2. The additive inverse of negative seven is seven.

3. We can think of addition of numbers as accumulating numbers.

4. The expression "15 – 7" can be thought of as "fifteen plus negative seven."

Practice

Find the additive inverse (opposite) of each real number.

5. 11

6. –3.4

Subtract. Reduce fractions to lowest terms.

7. $-8-(-11)$

8. $\frac{7}{15}-\frac{2}{15}$

Perform the indicated operation to find the net change in value.

9. $-6+(-4)-5$

10. $-11.3 + 5.3 - 7.9$

Applications

Solve.

11. ***Temperature:*** At 2 p.m. the temperature was 76 °F. At 8 p.m. the temperature was 58 °F. What was the change in temperature?

12. ***Real Estate:*** A couple sold their house for $135,000. They paid the realtor $8100, and other expenses of the sale came to $800. If they owed the bank $87,000 for the mortgage, what were their net proceeds from the sale?

Writing & Thinking

13. Explain, in your own words, how to find the difference between a positive and a negative number.

14. What is the additive inverse of 0? Why?