

5-3 Adding and Subtracting Decimals

(Pages 234–238)

Addition and subtraction of rational numbers follow the same principles as addition and subtraction of integers.

EXAMPLES

A Solve $13 + 2.5 = m$.

Write 13 as 13.0, an equivalent decimal.

13.0 Align by decimal point.

$$\begin{array}{r} +2.5 \\ 13.0 \\ \hline \end{array}$$

$$15.5$$

$$15.5 = m$$

B Solve $k = 6.2 - 2.75$.

Write 6.2 as 6.20, an equivalent decimal.

6.20 Align by decimal point.

$$\begin{array}{r} -2.75 \\ 6.20 \\ \hline \end{array}$$

$$3.45$$

$$k = 3.45$$

C Solve $7.2 - (-1.5) = p$.

$7.2 - (-1.5) = p$ To subtract 1.5, add 1.5.

$$7.2 + 1.5 = p$$

$$8.7 = p$$

D Simplify $1.3x + 2.5x + 3.7x$.

Use the distributive property.

$$1.3x + 2.5x + 3.7x = (1.3 + 2.5 + 3.7)x$$

$$= 7.5x$$

Try These Together

1. Solve $x = 3.9 + 7.61$.

2. Solve $4.7 - 2.43 = p$.

HINT: Estimate an answer before you calculate and use your estimate to check the reasonableness of your answer.

PRACTICE

Solve each equation.

3. $8.11 + 7.5 = a$

4. $n = 2.8 - 1.27$

5. $y = 2.59 - 4$

6. $s = 42.1 + 7.986$

7. $-8.4 + 2.5 = w$

8. $b = 7.2 - (-4.5)$

Simplify each expression.

9. $4.5n - 3.7n$

10. $18.7x + 1.2x$

11. $c + 4.8c$

12. $7.6r - 3.4r$

13. $5.1f - 8.6f$

14. $3.1d - d + 2.4d$

15. $0.5u - 0.12u + 0.83u$

16. $(2.04 - 1.2)x$

17. $y(8.7 + 3.4)$

18. **Chemistry** Water (H_2O) is made up of two parts hydrogen and one part oxygen. Hydrogen molecules have an atomic mass of 1.0079, and oxygen molecules have an atomic mass of 15.9994. What is the total atomic mass of one molecule of water?



19. **Standardized Test Practice** Evaluate the expression $a - b$ for $a = 5.7$ and $b = -8.2$.

A -13.9

B -2.5

C 2.5

D 13.9

Answers: 1. 11.51 2. 2.27 3. 15.61 4. 1.53 5. -1.41 6. 50.086 7. -5.9 8. 11.7 9. 0.8n 10. 19.9x 11. 5.8c 12. 4.2r 13. -3.5f 14. 4.5d 15. 1.21t 16. 0.84x 17. 12.1y 18. 18.0152 atomic mass units 19. D