Section 5.3 Solving Systems of Linear Equations by Elimination

# Objective 1: Using the Elimination Method

The elimination method, or addition method, is a second algebraic method for solving systems of equations.

For this method, we rely on a version of the addition property of equality which states that “equals added to equals are equal.” Or stated another way, if $A=B$ and $C=D$, then $A+C=B+D.$

Solve each system of equations by using the elimination (addition) method.

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| a.$ \left\{\begin{array}{c} 9x-2y=-1\\9x+y=0\end{array}\right.$ | b. $\left\{\begin{array}{c} x-4y=14\\4x-16y=14\end{array}\right.$ |

Solve each system of equations using either the substitution or the elimination method.

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| c. $\left\{\begin{array}{c} y=3-7x\\3y=9-21x\end{array}\right.$ | d. $\left\{\begin{array}{c}\frac{2}{3}x+y=3\\-\frac{1}{8}x-\frac{3}{4}y=-\frac{27}{8}\end{array}\right.$ |

e. $\left\{\begin{array}{c}6x-5y=9\\-5x+3y=-11\end{array}\right.$