# Systems of Equations

1 Find the sum of $x$ and $y$ for the following system:

$$\begin{cases} 2x+7y-3=0 \\ 2y-2x-6=0 \end{cases}$$

A. -1 B. 0 C. 1
D. 3 E. NOTA

2 When solving by the substitution method, what expression would be substituted into the bottom equation for the variable *x*?

$$\begin{cases} 2x-3y=7 \\ 5x+7y=21 \end{cases}$$

A. $3y+7$ B. $21-7y$ C. $\frac{21-7y}{5}$
D. $\frac{3y+7}{2}$ E. NOTA

3 Solve for $y$ in the following system of equations: $\begin{cases} 9x-2y=-1 \\ -6x+7y=12 \end{cases}$

A. -3 B. -2 C. 2
D. 3 E. NOTA

4 Six oranges and seven grapefruits have a total cost of $3.60. Three oranges and eleven grapefruit have a cost of $4.05. How much would it cost for just one orange and one grapefruit together?

A. $0.45 B. $0.55 C. $0.57
D. $7.65 E. NOTA

5 Find the area of the solution set of $\begin{cases} x+y \le 5 \\ 5x+y \ge 5 \\ x-3y \ge 1 \end{cases}$.

A. $\frac{15}{2}$ B. 8 C. $\frac{25}{2}$
D. 16 E. NOTA

6 Let (x,y) be the intersection point of $\begin{cases} 4x+3y=12 \\ 5x+2y=8 \end{cases}$ What is $x+y$?

A. -12 B. $-\frac{12}{11}$ C. $\frac{12}{11}$
D. 12 E. NOTA

7 Which of the following best describes the system?

$$\begin{cases} 5x - 7y + 9 = 0 \\ 7y - 5x = 9 \end{cases}$$

I. Dependent
II. Independent
III. Consistent
IV. Inconsistent

A. I, IV B. II, III C. III
D. I, III E. NOTA

8 Solve the system for $x$

$$\begin{cases} 3x + y + z = 22 \\ 2x - y - 4z = -1 \\ z = 3 \end{cases}$$

A. 1 B. $2\frac{1}{5}$ C. 3
D. 6 E. NOTA

9 Find the x-coordinate of the solution of the following system of equations.

$$\begin{cases} x + y + z = 6 \\ 2x - y + z = -1 \\ 3x - z = -7 \end{cases}$$

A. -2 B. -1 C. 0
D. 1 E. NOTA

10 Solve the following system of equations: [Answers are in the form (x,y,z)

$$\begin{cases} 3x + 4y - 9z = 61 \\ 8x - y = 9 \\ 9x + 2z = 12 \end{cases}$$

A. (2, 8, 7) B. (8, 2, -4) C. (2, 7, -3)
D. (-6, 8, 4) E. NOTA