Name_ Date_____ Instructor_____

MAC1105 Exam #4 (Blitzer)
Chapter 5 & 6 (5.1, 5.2, 6.5)
Miami Dade College - IAC Campus
Home-Based Assignment #2

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Determine whether the given ordered pair is a solution of the system.

1) (5, -3) 1) _____

$4x + y = 17$
$3x + 4y = 3$

2) (5, -1) 2) _____

$x + y = -6$
$x - y = -4$

Solve the system of equations by the substitution method.

3) 3) _____

$3y = x + 54$
$2x + 6y = 0$

4) 4) _____

$y = 3x + 6$

$y = 5x + 7$

Solve the system by the addition method.

5) $-2x + 7y = -22$ 5) _____

$5x + 4y = 12$

6) $x - 6y = -46$ 6) _____

$-3x - 7y = -62$

7) $5x - 6y = -28$
$2x + 4y = 40$ 7) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the problem.

8) A vendor sells hot dogs and bags of potato chips. A customer buys 5 hot dogs and 5 bags of potato chips for $15.00. Another customer buys 2 hot dogs and 4 bags of potato chips for $8.50. Find the cost of each item. 8) _____

A) $2.00 for a hot dog; $1.50 for a bag of potato chips
B) $1.25 for a hot dog; $1.75 for a bag of potato chips
C) $1.75 for a hot dog; $1.25 for a bag of potato chips
D) $1.75 for a hot dog; $1.50 for a bag of potato chips

9) Steve invests in a circus production. The cost includes an overhead of $84,000, plus production costs of $2000 per performance. A sold-out performance brings in $8000. Determine the number of sold-out performances, x, needed to break even. 9) _____

A) 16 performances
B) 15 performances
C) 14 performances
D) 7 performances

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Determine if the given ordered triple is a solution of the system.

10) (-1, -5, -3) 10) _____

$4x + 2y + z = -23$
$2x - 2y - z = 5$
$3x + y + 4z = -18$

11) (4, -2, 3) 11) _____

$2x + 4y + z = 3$
$5x - 4y - z = 25$
$5x + y + 3z = 27$

12) (-3, 3, 0)

$$\begin{aligned} x - y + 3z &= -12 \\ 4x \quad + z &= -3 \\ x + 4y + z &= 9 \end{aligned}$$

12) _____

Solve the system of equations.

13) $\begin{aligned} x + y + z &= 0 \\ x - y + 4z &= 17 \\ 2x + y + z &= -4 \end{aligned}$

13) _____

Evaluate the determinant.

14) $\begin{vmatrix} 2 & -1 \\ 3 & 3 \end{vmatrix}$ 14) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

15) $\begin{vmatrix} \frac{1}{12} & \frac{1}{10} \\ -\frac{2}{5} & \frac{7}{11} \end{vmatrix}$ 15) _____

A) $\frac{43}{3300}$ B) $\frac{307}{3300}$ C) $\frac{3}{2200}$ D) $-\frac{16}{165}$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Use Cramer's rule to solve the system.

16) $3x + 2y = 2$
$6x + 5y = 1$ 16) _____

17) $3x = 39 - 3y$
$5y = 41 - 2x$ 17) _____

Use Cramer's rule to determine if the system is inconsistent system or contains dependent equations.

18) $7x + y = 37$
$7x + y = 72$ 18) _____

19) $\begin{matrix} 3x + y = 8 \\ 12x + 4y = 32 \end{matrix}$ 19) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Evaluate the determinant.

20) $\begin{vmatrix} 1 & 2 & 4 \\ 2 & 5 & 5 \\ 1 & 2 & 4 \end{vmatrix}$ 20) _____

A) 92 B) 1 C) -20 D) 0