

Online Exam 8_08

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Part 1 of 1 -

Question 1 of 20

5.0 Points

Solve the system by substitution.

$$x + y = 4$$

$$x - y = 2$$

☐ A. (1, 3)☐ B. (-1, 5)☐ C. (3, 1)☐ D. (5, -1)[Reset Selection](#)☐ Mark for Review [What's This?](#)

Question 2 of 20

5.0 Points

Solve the system by substitution.

$$6x - 5y = 11$$

$$7x + 5y = 2$$

☐ A. (1, -2)☐ B. (1, -1)☐ C. (2, -1)☐ D. (2, -2)[Reset Selection](#)☐ Mark for Review [What's This?](#)

Question 3 of 20

5.0 Points

Solve the system by substitution.

$$x - y = -11$$

$$x + 3y = 5$$

☐ A. (-7, 4)☐ B. (-8, 4)☐ C. (-7, 5)☐ D. (-8, 5)

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Question 4 of 20

5.0 Points

Solve the system using elimination by addition.

$$x + y + z = 0$$

$$-x + y - 2z = 6$$

$$2x + y + z = 0$$

- ☐ A. (1, 1, -1)
- ☐ B. (0, 2, -1)
- ☐ C. (0, 2, -2)
- ☐ D. No solution

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Question 5 of 20

5.0 Points

Solve the system using elimination by addition.

$$2x + 2y + 3z = 23$$

$$2x + 2y + 5z = 33$$

$$-4x - 4y - 8z = -55$$

- ☐ A. (0, 4, 5)
- ☐ B. (0, 3, 6)
- ☐ C. (0, 5, 4)
- ☐ D. No solution

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Question 6 of 20

5.0 Points

Solve the system using elimination by addition.

$$4x - 2y + 2z = 2$$

$$-x + y - 3z = -4$$

$$4x - 3y + 7z = 9$$

- ☐ A. (-1, -7, 0)
- ☐ B. (3, 3, 2)
- ☐ C. $\{(2s - 3, 5s - 7, s) \mid s \text{ is any real number}\}$
- ☐ D. No solution

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Question 7 of 20

5.0 Points

Solve the system using Gauss-Jordan elimination.

$$\begin{aligned}x_1 + 2x_2 &= 6 \\ -3x_1 + x_2 &= 17\end{aligned}$$

- ☐ A. $x_1 = -4, x_2 = 4$
- ☐ B. $x_1 = -3, x_2 = 5$
- ☐ C. $x_1 = -4, x_2 = 5$
- ☐ D. No solution

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Question 8 of 20

5.0 Points

Solve the system using Gauss-Jordan elimination.

$$\begin{aligned}-12x_1 - 4x_2 &= -20 \\ 3x_1 + x_2 &= -5\end{aligned}$$

- ☐ A. $x_1 = -4, x_2 = 6$
- ☐ B. $x_1 = -3, x_2 = 7$
- ☐ C. $x_1 = -4, x_2 = 7$
- ☐ D. No solution

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Question 9 of 20

5.0 Points

Solve the system using Gauss-Jordan elimination.

$$\begin{aligned}-x_1 + x_2 - x_3 &= 5 \\ x_1 + x_2 + 4x_3 &= -1 \\ -3x_1 + x_2 + x_3 &= 11\end{aligned}$$

- ☐ A. $x_1 = -3, x_2 = 2, x_3 = 0$
- ☐ B. $x_1 = -3, x_2 = 2, x_3 = 1$
- ☐ C. $x_1 = -2, x_2 = 1, x_3 = 1$
- ☐ D. No solution

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Question 10 of 20

5.0 Points

Write the system as a matrix equation and solve using inverses.

$$\begin{aligned}x_1 + 2x_2 - x_3 &= -3 \\ -2x_1 - x_2 + 3x_3 &= 0 \\ -4x_1 + 4x_2 - x_3 &= -12\end{aligned}$$

- ☐ A. $x_1 = 2, x_2 = -3, x_3 = 1$
- ☐ B. $x_1 = 1, x_2 = -2, x_3 = 1$
- ☐ C. $x_1 = 1, x_2 = -2, x_3 = 0$
- ☐ D. $x_1 = 1, x_2 = -3, x_3 = 1$

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Question 11 of 20

5.0 Points

Adult tickets for a play cost \$19 and child tickets cost \$7. If there were 29 people at a performance and the theatre collected \$323 from ticket sales, how many adults and how many children attended the play?

- ☐ A. 9 adults and 20 children
- ☐ B. 10 adults and 19 children
- ☐ C. 11 adults and 18 children
- ☐ D. 12 adults and 17 children

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Question 12 of 20

5.0 Points

Solve the system.

$$x^2 + y^2 = 4$$

$$y - x = 2$$

- ☐ A. (0, 2), (2, 0)
- ☐ B. (0, 2), (-2, 0)
- ☐ C. (0, -2), (2, 0)
- ☐ D. (0, -2), (-2, 0)

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Question 13 of 20

5.0 Points

Solve the system.

$$3x^2 - 2y^2 = -5$$

$$x^2 + y^2 = 25$$

- ☐ A. (3, 4), (3, -4), (-3, 4), (-3, -4)
- ☐ B. (4, 4), (5, 4), (3, -4), (1, -4)
- ☐ C. (-3, 4), (1, 4), (-3, -4), (2, -4)
- ☐ D. (1, 4), (2, -4), (-4, 3), (-3, -3)

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Question 14 of 20

5.0 Points

Find the coordinates of the corner points using the following:

$$x - y = -2$$

$$2x + y = -1$$

$$x = -2$$

- ☐ A. (-2, 0)
- ☐ B. (-2, 0), (-1, 1)

☐ C. $(-2, 0), (-1, 1), (-2, 3)$

☐ D. $(-1, 1), (-2, 3)$

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Question 15 of 20

5.0 Points

Esther wants to spend no more than \$60 buying gifts for her friends Barb and Wanda. She wants to spend at least \$20 on Wanda's gift.

Let B represent the amount Esther spends on Barb's gift and W represent the amount she spends on Wanda's gift. Write a system of linear inequalities that models the information.

☐ A. $B + W \leq 60$
 $B \leq 20$
 $W \geq 0$

☐ B. $B + W \geq 60$
 $B \leq 20$
 $W \geq 20$

☐ C. $B + W \leq 60$
 $B \geq 0$
 $W \geq 20$

☐ D. $B + W \geq 60$
 $B \geq 0$
 $W \geq 20$

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Question 16 of 20

5.0 Points

$$\begin{aligned} 2x + y &\leq 20 \\ x + 3y &\leq 30 \\ x, y &\geq 0 \end{aligned}$$

Maximize $z = 3x + 12y$ subject to the region.

☐ A. Maximum value of 114 at $(6, 8)$

☐ B. Maximum value of 60 at $(20, 0)$

☐ C. Maximum value of 120 at $(0, 10)$

☐ D. Maximum value of 30 at $(10, 0)$

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Question 17 of 20

5.0 Points

$$\begin{aligned} 2x + y &\geq 14 \\ x + 3y &\leq 12 \\ x, y &\geq 0 \end{aligned}$$

Minimize $z = 3x + 5y$ subject to the given region.

☐ A. Minimum value of 20 at $(0, 4)$

☐ B. Minimum value of 21 at $(7, 0)$

☐ C. Minimum value of 28 at $(6, 2)$

- ☐ D. Minimum value of 36 at (12, 0)

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Question 18 of 20

5.0 Points

$$\begin{aligned} x + 2y &\leq 18 \\ x + y &\leq 10 \\ 2x + y &\leq 18 \\ x, y &\geq 0 \end{aligned}$$

Maximize $z = 3x + 4y$ subject to the given region.

- ☐ A. Maximum value of 42 at (6, 6)
- ☐ B. Maximum value of 38 at (2, 8)
- ☐ C. Maximum value of 36 at (0, 9)
- ☐ D. Maximum value of 32 at (8, 2)

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Question 19 of 20

5.0 Points

$$\begin{aligned} x + 2y &\leq 18 \\ x + y &\geq 10 \\ 2x + y &\leq 18 \\ x, y &\geq 0 \end{aligned}$$

Minimize $z = 3x + 5y$ subject to the given region.

- ☐ A. Minimum value of 27 at (9, 0)
- ☐ B. Minimum value of 45 at (0, 9)
- ☐ C. Minimum value of 34 at (8, 2)
- ☐ D. Minimum value of 0 at (0, 0)

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Question 20 of 20

5.0 Points

A stationery store sells rolls of standard gift wrap and deluxe gift wrap. They can stock a total of 100 rolls of gift wrap, of which at least 30 must be standard wrap and at least 20 must be deluxe wrap. The profit on a roll of standard wrap is \$2 and the profit on a roll of deluxe wrap is \$6. How many rolls of each type of gift wrap should the store stock to maximize its profit?

- ☐ A. 29 rolls of standard gift wrap and 71 rolls of deluxe gift wrap
- ☐ B. 30 rolls of standard gift wrap and 70 rolls of deluxe gift wrap
- ☐ C. 31 rolls of standard gift wrap and 69 rolls of deluxe gift wrap
- ☐ D. 32 rolls of standard gift wrap and 68 rolls of deluxe gift wrap

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