***Solution Section* 4.1 – System of linear Equations**

***Exercise***

Use any method to solve the system equation (***elimination*** or ***substitution*** method)



***Solution***













***Solution***: 

***Exercise***

Use any method to solve the system equation (***elimination*** or ***substitution*** method)



***Solution***













∴ ***Solution***: 

***Exercise***

Use any method to solve the system equation (***elimination*** or ***substitution*** method)



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Use any method to solve the system equation (***elimination*** or ***substitution*** method) 

***Solution***



 (*impossible*)

∴ ***N*o** ***Solution***

***Exercise***

Use any method to solve the system equation (***elimination*** or ***substitution*** method)



***Solution***











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∴ ***Solution***: 

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Use any method to solve the system equation (***elimination*** or ***substitution*** method)



***Solution***











∴ ***Solution***: 

***Exercise***

Perform the matrix row operation (or operations) and write the new matrix.



***Solution***





***Exercise***

Perform the matrix row operation (or operations) and write the new matrix.



***Solution***





***Exercise***

Perform the matrix row operation (or operations) and write the new matrix.



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***Solution***

 



***Exercise***

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***Solution***

 



***Exercise***

Perform the matrix row operation (or operations) and write the new matrix.



***Solution***

 



***Exercise***

Perform the matrix row operation (or operations) and write the new matrix.



***Solution***

  



***Exercise***

Use the Gauss-Jordan method to solve the system 

***Solution***

 

 

 

 

  



S***olution***: ****

***Exercise***

Use the Gauss-Jordan method to solve the system ****

***Solution***

 1 - 2 -

 

 0 1 8 3

 

 0 0 1 -

 



***Solution***: ****

***Exercise***

Use the Gauss-Jordan method to solve the system  ****

***Solution***

 

 

 

 

 

 



***Solution***: ****

***Exercise***

Use the Gauss-Jordan method to solve the system  ****

***Solution***



 



 



 



***Solution***: ****

***Exercise***

Use the Gauss-Jordan method to solve the system 

***Solution***

 



 



let *z* be the variable

From Row 1 ⇒ *y* + 2*z* = 



From Row 1 









***Solution***: 

***Exercise***

Use the Gauss-Jordan method to solve the system 

***Solution***

 1  1 2

  

  



From Row 3: 0 = 0 is a true statement. Let ***z*** be the variable.

From Row 2: *y* − 2*z* = 1



From Row 1: *x* + 2*z* = 



***∴ Solution***: 

***Exercise***

Use the Gauss-Jordan method to solve the system 

***Solution***

  



  



  



***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

 



 





***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

















***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 

















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

 

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 

















**∴ *Solution***: 

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Use augmented elimination to solve linear system 

***Solution***

  

 















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

 













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***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 

















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  













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***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  









**∴ *Solution***: 

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Use augmented elimination to solve linear system 

***Solution***

  













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

 

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

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Use augmented elimination to solve linear system 

***Solution***



  

 













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Use augmented elimination to solve linear system 

***Solution***

  

 















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

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Use augmented elimination to solve linear system 

***Solution***

 

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***





Since all three equations are the same.

**∴ *Solution***: is the plane 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

 















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***

  

  

 























**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***



  

  

 



















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***





 *Interchange* 



















***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***







***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***











***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***









***∴ Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***







**∴ *Solution***: 

***Exercise***

Solve the linear system by Gauss-Jordan elimination.



***Solution***













**∴ *Solution***: 

***Exercise***

Solve the linear system by Gauss-Jordan elimination.



***Solution***













**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***











**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***















**∴ *Solution***: 

***Exercise***

Use augmented elimination to solve linear system 

***Solution***











 

The general solution of the system: 

**∴ *Solution***: 

***Exercise***

At SnackMix, caramel corn worth $2.50 per *pound* is mixed with honey roasted missed nuts worth $7.50 per *pound* in order to get 20 *lbs*. of a mixture worth $4.50 per *pound*. How much of each snack is used?

***Solution***

 

(1) y = 20 − *x*

(2) 2.5*x* + 7.5 (20 – *x*) = 90

2.5*x* + 150 – 7.5*x* = 90

–5*x* = 90 − 150

– 5*x* = −60



y = 20 – *x*

= 20 – 12

= 8

The mixture consists of 12 *lbs*. of caramel and 8 *lbs*. of nuts