

Solve the following system of equations using the Gauss-Jacobi iteration method.

1. $20x + y - 2z = 17,$
 $3x + 20y - z = -18,$
 $2x - 3y + 20z = 25.$

3. $x + 20y + z = -18,$
 $25x + y - 5z = 19,$
 $3x + 4y + 8z = 7.$

2. $27x + 6y - z = 85,$
 $x + y + 54z = 110,$
 $6x + 15y + 2z = 72.$

4. $10x + 4y - 2z = 20,$
 $3x + 12y - z = 28,$
 $x + 4y + 7z = 2.$

Solve the following system of equations using the Gauss-Seidel iteration method.

5. $27x + 6y - z = 85,$
 $x + y + 54z = 110,$
 $6x + 15y + 2z = 72.$

6. $4x + 2y + z = 14,$
 $x + 5y - z = 10,$
 $x + y + 8z = 20.$

7. $x + 3y + 52z = 173.61,$
 $x - 27y + 2z = 71.31,$
 $41x - 2y + 3z = 65.46.$ Start with $x = 1, y = -1, z = 3.$

8. $20x - y - 2z = 17,$
 $3x + 20y - z = -18,$
 $2x - 3y + 20z = 25.$

9. $x + 20y + z = -18,$
 $25x + y - 5z = 19,$
 $3x + 4y + 8z = 7.$

10. $10x + 4y - 2z = 20,$
 $3x + 12y - z = 28,$
 $x + 4y + 7z = 2.$