ILLAWARRA TUTORING

In this worksheet you will learn to apply substitution and elimination techniques to solve systems of linear equations. Each question asks you to solve a system of two variables using the appropriate method.

Easy Questions

1. Solve the system $x + y = 5$ and $x - y = 1$.
2. Solve the system $3x + 2y = 16$ and $x - y = 2$.
3. Solve the system $2x + 3y = 12$ and $x = 2$.
4. Solve the system $x + 2y = 8$ and $x = y + 2$.
5. Solve the system $2x + y = 7$ and $x - y = 1$.

Intermediate Questions

6. Solve the system $x + y = 6$ and $2x - y = 3$.
7. Solve the system $2x + 3y = 12$ and $4x - 3y = 6$.
8. Solve the system $3x + 4y = 11$ and $2x - 4y = -2$.
9. Solve the system $5x + y = 14$ and $2x - y = 1$.
10. Solve the system $x - 2y = -1$ and $3x + y = 10$.
11. Solve the system $4x + 5y = 23$ and $2x - y = 1$.
12. Solve the system $2x + 3y = 13$ and $x - y = 0$.
13. Solve the system $3x - y = 8$ and $2x + y = 7$.
14. Solve the system $5x + 2y = 17$ and $3x - 2y = 1$.
15. Solve the system $2x - y = 3$ and $3x + 2y = 18$.
16. Solve the system $4x - y = 7$ and $x + y = 5$.
17. Solve the system $x + 3y = 10$ and $2x - y = 3$.
18. Solve the system $2x + 5y = 20$ and $3x - 2y = 4$.
19. Solve the system $6x + 2y = 26$ and $3x - y = 4$.
20. Two numbers have a sum of 12 and a difference of 4. Find both numbers.

Hard Questions

21. Solve the system $1.5x + 2.5y = 10$ and $2.5x - 1.5y = 3$.
22. Solve the system $3(x + y) = 21$ and $2x - y = 4$.
23. Solve the system $x + y = 3$ and $2x + 3y = 7$.
24. Solve the system $\frac{x}{2} + \frac{y}{3} = 5$ and $x - y = 1$.
25. Solve the system $2(x - y) = 6$ and $3(x + y) = 15$.
26. Solve the system $4(2x + y) = 28$ and $3(x - y) = 6$.
27. One number is 5 more than another. Their sum is 19. Find both numbers.
28. Solve the system $3x + 4y = 25$ and $-x + 5y = 10$.
29. Solve the system $2(x + y) = 14$ and $3(x - y) = 9$.
30. The cost of 2 pens and 3 pencils is 8 dollars, and the cost of 3 pens and 2 pencils is 7 dollars. Find the cost of one pen and one pencil.