

Solving Systems of Equations by Substitution - Practice Worksheet

Name: _____ Date: _____

Instructions: Solve each system of equations using the substitution method. Show all steps. Check your answers by substituting both values back into the original equations.

1. $y = 2x + 1$ $3x + y = 11$

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2. $y = x - 3$ $2x + y = 9$

.....

3. $x = 3y$ $2x - y = 10$

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4. $y = -x + 5$ $3x - 2y = 5$

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5. $2x + y = 7$ $y = x - 2$

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6. $x + 2y = 8$ $x = y + 2$

.....

7. $3x - y = 4$ $y = 2x - 1$

.....

8. $2x + 3y = 12$ $x = 2y - 1$

.....

9. $4x - y = 6$ $2x + 3y = 16$

.....

10. $5x + 2y = 20$ $y = 3x - 8$

.....

Answer Key

1. $x = 2, y = 5$

2. $x = 4, y = 1$

3. $x = 6, y = 2$

4. $x = 3, y = 2$

5. $x = 3, y = 1$

6. $x = 4, y = 2$

7. $x = 3, y = 5$

8. $x = 3, y = 2$

9. $x = 2, y = 2$

10. $x = 3.27$ approx; exact: $x = 36/11, y = 52/11$ - simplify: $5x + 2(3x-8)=20 \Rightarrow 11x=36 \Rightarrow x=36/11, y=3(36/11)-8=108/11-88/11=20/11$