

Substitution and Elimination

Algebra 7.3

Review:

Solve each of the following using substitution or elimination:

$$\begin{array}{ll} 1. \quad y = 3x - 2 & 2. \quad 2x - 3y = 7 \\ & 3x - 2y = -8 \end{array}$$

$$\begin{array}{ll} & 4x + 3y = 5 \end{array}$$

Use Substitution when at least one variable has a coefficient of 1 (or -1).

Use Elimination when variables share the same coefficient.

Both will always work, if neither of the above is true, use whichever method you are more comfortable with.

Examples:

Substitution or Elimination? (DO NOT SOLVE)

$$\begin{array}{l} 1. \quad y = 3x - 5 \\ \quad x = y - 3 \end{array}$$

$$\begin{array}{l} 2. \quad 5x - 2y = 11 \\ \quad 2x + 2y = 3 \end{array}$$

$$\begin{array}{l} 3. \quad 3x - y = 31 \\ \quad 3y = x - 5 \end{array}$$

Now, solve them.

$$\begin{array}{l} 1. \quad y = 3x - 5 \\ \quad x = y - 3 \end{array}$$

$$\begin{array}{l} 2. \quad 5x - 2y = 11 \\ \quad 2x + 2y = 3 \end{array}$$

$$\begin{array}{l} 3. \quad 3x - y = 31 \\ \quad 3y = x - 5 \end{array}$$

Use Substitution or Elimination to solve the following.

$$\begin{array}{l} 1. \quad y = 2x - 8 \\ \quad 2x + 3y = 0 \end{array}$$

$$\begin{array}{l} 2. \quad 5x - 3y = -8 \\ \quad x + 24 = 2y \end{array}$$

$$\begin{array}{l} 3. \quad 5x = 2y - 1 \\ \quad x + y = 11 \end{array}$$

Substitution and Elimination

Algebra 7.6

Substitution and Elimination:

Solve each using substitution or elimination.

$$\begin{aligned}1. \quad y &= 3x - 11 \\x &= 2y - 3\end{aligned}$$

$$\begin{aligned}2. \quad x + y &= -5 \\x &= y + 3\end{aligned}$$

$$\begin{aligned}3. \quad 2x - y &= 11 \\x &= y + 3\end{aligned}$$

$$\begin{aligned}4. \quad x + y &= -2 \\y + 2x &= 2\end{aligned}$$

$$\begin{aligned}5. \quad y &= -3x + 5 \\y &= x - 7\end{aligned}$$

$$\begin{aligned}6. \quad x + 3y &= 2 \\2x - y &= -10\end{aligned}$$

$$\begin{aligned}7. \quad y &= -2x - 1 \\y + 4 &= -x\end{aligned}$$

$$\begin{aligned}8. \quad y &= 3x - 2 \\2 &= -3x + y\end{aligned}$$

$$\begin{aligned}9. \quad 2x - 3y &= -11 \\x + y &= 2\end{aligned}$$

$$\begin{aligned}10. \quad 2y &= x - 5 \\2x - 4y &= 10\end{aligned}$$

$$\begin{aligned}11. \quad 2x - 3y &= -5 \\2x + y &= 11\end{aligned}$$

$$\begin{aligned}12. \quad x - 2y &= 1 \\6x - y &= 4\end{aligned}$$

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Substitution and Elimination:

Solve each using substitution or elimination.

$$\begin{aligned} \textbf{13. } \quad & 3x + 4y = 2 \\ & 4x = 4y + 12 \end{aligned}$$

$$\begin{aligned} \textbf{14. } \quad & y = 3x + 3 \\ & 3x + 2y = -12 \end{aligned}$$

$$\begin{aligned} \textbf{15. } \quad & 2x - 3y = -24 \\ & x + 6y = 18 \end{aligned}$$

$$\begin{aligned} \textbf{16. } \quad & y = -4x \\ & x + 2y = -7 \end{aligned}$$

$$\begin{aligned} \textbf{17. } \quad & x = 3y - 4 \\ & 2x + 6y = 5 \end{aligned}$$

$$\begin{aligned} \textbf{18. } \quad & 3x - 2y = 11 \\ & x - \frac{1}{2}y = 4 \end{aligned}$$

$$\begin{aligned} \textbf{19. } \quad & 0.3x - 0.2y = 0.5 \\ & x + 2y = 15 \end{aligned}$$

$$\begin{aligned} \textbf{20. } \quad & x - 7 = 2y \\ & 4x - y = 9 \end{aligned}$$