

Systems of Equations with Fractions

Solve. Neatly Show All Work!

$$1. \begin{cases} \frac{-1}{8}x = \frac{-5}{5}y + \frac{5}{8} \\ \frac{10}{3}x = \frac{7}{4} + \frac{1}{1}y \end{cases} \quad \left(\frac{57}{77}, \frac{221}{308} \right)$$

$$7. \begin{cases} \frac{-5}{4}x = \frac{5}{2}y + \frac{-2}{7} \\ \frac{6}{2}x = \frac{-7}{6} + \frac{3}{2}y \end{cases} \quad \left(\frac{-418}{1575}, \frac{387}{1575} \right)$$

$$14. \begin{cases} \frac{5}{2}x = \frac{-3}{6}y + \frac{5}{7} \\ \frac{-8}{2}x = \frac{2}{5} + \frac{-1}{3}y \end{cases}$$

$$2. \begin{cases} \frac{-1}{4}x = \frac{-1}{9}y + \frac{2}{8} \\ \frac{4}{2}x = \frac{-4}{6} + \frac{-1}{2}y \end{cases} \quad \left(\frac{-43}{75}, \frac{24}{25} \right)$$

$$8. \begin{cases} \frac{-3}{3}x = \frac{4}{9}y + \frac{-2}{4} \\ \frac{-9}{2}x = \frac{6}{4} + \frac{-2}{3}y \end{cases} \quad \left(\frac{-1}{8}, \frac{45}{32} \right)$$

$$15. \begin{cases} \frac{-3}{8}x = \frac{3}{9}y + \frac{-2}{2} \\ \frac{4}{3}x = \frac{-2}{4} + \frac{-1}{4}y \end{cases}$$

$$3. \begin{cases} \frac{-1}{3}x = \frac{6}{8}y + \frac{-1}{7} \\ \frac{-10}{3}x = \frac{-7}{4} + \frac{-2}{3}y \end{cases} \quad \left(\frac{1419}{2744}, \frac{-27}{68} \right)$$

$$9. \begin{cases} \frac{-5}{2}x = \frac{6}{9}y + \frac{2}{3} \\ \frac{3}{3}x = \frac{-6}{3} + \frac{1}{2}y \end{cases} \quad \left(\frac{-20}{23}, \frac{52}{23} \right)$$

$$16. \begin{cases} \frac{1}{5}x = \frac{-3}{8}y + \frac{-7}{6} \\ \frac{4}{3}x = \frac{-7}{5} + \frac{2}{3}y \end{cases}$$

$$4. \begin{cases} \frac{-1}{2}x = \frac{1}{7}y + \frac{-2}{6} \\ \frac{8}{3}x = \frac{6}{4} + \frac{-3}{1}y \end{cases} \quad \left(\frac{35}{47}, \frac{-35}{282} \right)$$

$$10. \begin{cases} \frac{-1}{8}x = \frac{-6}{8}y + \frac{-5}{2} \\ \frac{-5}{2}x = \frac{-3}{6} + \frac{-3}{1}y \end{cases} \quad \left(\frac{-19}{4}, \frac{-33}{8} \right)$$

$$17. \begin{cases} \frac{3}{4}x = \frac{5}{5}y + \frac{-3}{2} \\ \frac{1}{3}x = \frac{-7}{5} + \frac{3}{2}y \end{cases}$$

$$5. \begin{cases} \frac{-3}{4}x = \frac{4}{3}y + \frac{-7}{5} \\ \frac{-9}{3}x = \frac{-1}{6} + \frac{1}{4}y \end{cases} \quad \left(\frac{-92}{2745}, \frac{324}{305} \right)$$

$$11. \begin{cases} \frac{3}{2}x = \frac{-2}{5}y + \frac{-5}{5} \\ \frac{10}{2}x = \frac{-7}{4} + \frac{2}{4}y \end{cases} \quad \left(\frac{-24}{55}, \frac{-19}{22} \right)$$

$$18. \begin{cases} \frac{3}{8}x = \frac{1}{3}y + \frac{-2}{7} \\ \frac{-9}{3}x = \frac{-3}{5} + \frac{-3}{3}y \end{cases}$$

$$6. \begin{cases} \frac{5}{3}x = \frac{-2}{9}y + \frac{6}{4} \\ \frac{-1}{2}x = \frac{7}{3} + \frac{3}{4}y \end{cases} \quad \left(\frac{355}{246}, \frac{-167}{41} \right)$$

$$12. \begin{cases} \frac{1}{5}x = \frac{-3}{3}y + \frac{-5}{7} \\ \frac{-7}{2}x = \frac{1}{4} + \frac{-2}{4}y \end{cases} \quad \left(\frac{15}{476}, \frac{49}{68} \right)$$

$$19. \begin{cases} \frac{3}{6}x = \frac{-6}{9}y + \frac{-9}{7} \\ \frac{-6}{3}x = \frac{6}{3} + \frac{1}{3}y \end{cases}$$

$$13. \begin{cases} \frac{3}{2}x = \frac{3}{5}y + \frac{5}{6} \\ \frac{-5}{2}x = \frac{6}{5} + \frac{-2}{2}y \end{cases} \quad \text{(No Solution)}$$

$$20. \begin{cases} \frac{-1}{8}x = \frac{5}{4}y + \frac{-6}{6} \\ \frac{10}{2}x = \frac{-1}{3} + \frac{1}{2}y \end{cases}$$