## Systems of Equations Picture

Solve each of the systems of equations. Graph the solutions and connect them to make a picture. #1-8 make the first part. #9-17 make the second part.

1. 
$$\begin{cases} 2x + y = -12 \\ y = x - 3 \end{cases}$$
  
2. 
$$\begin{cases} y = \sqrt{x+2} \\ x + 3y = -2 \end{cases}$$
  
3. 
$$\begin{cases} y = x^2 + 2x + 4 \\ x - y = -4 \end{cases}$$
  
4. 
$$\begin{cases} y = \frac{3}{x}, x > 0 \\ y = 2x + 1 \end{cases}$$
  
5. 
$$\begin{cases} 3x - y = 6 \\ -2x + 5y = -4 \end{cases}$$
  
6. 
$$\begin{cases} \frac{x^2}{9} + (y + 5)^2 = 1 \\ y = \sqrt{x-3} - 5 \end{cases}$$
  
7. 
$$\begin{cases} x + y = -1 \\ x - y = 3 \end{cases}$$
  
8. 
$$\begin{cases} 3x + 2y = -9 \\ -2x + 4y = -10 \end{cases}$$

Finish this section by connecting back to #1.

Start a new section

9. 
$$\begin{cases} 17x + y = 3\\ -15x - 2y = -6 \end{cases}$$
  
10. 
$$\begin{cases} y = \frac{9}{8}x^2 - \frac{9}{4}x + \frac{13}{8} \\ y = -\frac{3}{4}x + \frac{5}{4} \end{cases}$$
  
11. 
$$\begin{cases} 9x + 11y = 6\\ 3x - 5y = 2 \end{cases}$$
  
12. 
$$\begin{cases} 3x - y = 4 \\ x + 5y = -4 \end{cases}$$
  
13. 
$$\begin{cases} 4x + 6y = -3 \\ -4x - 2y = 1 \end{cases}$$
  
14. 
$$\begin{cases} x + y = -2 \\ x - 6y = 5 \end{cases}$$
  
15. 
$$\begin{cases} 12x - 19y = -8 \\ 6x + y = -4 \end{cases}$$
  
16. 
$$\begin{cases} x + 2y - z = 0 \\ -x - 3y + 2z = -0.5 \\ -x + y + 2z = 1.5 \end{cases}$$
  
17. 
$$\begin{cases} 3x + y + 6z = 0 \\ 2y - z = 2 \\ z = 0 \end{cases}$$

Finish this section by connecting back to #9

Created by Richard Wright 2021

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