

Problems of Systems of linear equations

1) Find out the following systems of equations:

$$\text{a) } \begin{cases} x + y = -2 \\ x - 3y = 18 \end{cases}$$

$$\text{b) } \begin{cases} 4x + 9y = -1 \\ x - y = 3 \end{cases}$$

$$\text{c) } \begin{cases} 3x + 7y = 10 \\ 3x + 5y = 8 \end{cases}$$

$$\text{d) } \begin{cases} x + 2y = -7 \\ 3x - y = 7 \end{cases}$$

$$\text{e) } \begin{cases} x + 4y = -18 \\ 3x - y = -2 \end{cases}$$

$$\text{f) } \begin{cases} 2x + 3y = -4 \\ 3x + 2y = -11 \end{cases}$$

2) Solve the following systems of linear equations:

$$\text{a) } \begin{cases} 8x + 5y = 20 \\ 24x - 8y = -9 \end{cases}$$

$$\text{b) } \begin{cases} 26x - 8y = -15 \\ 13x + 8y = -3 \end{cases}$$

$$\text{c) } \begin{cases} x + 28y = 16 \\ x - 7y = -14 \end{cases}$$

$$\text{d) } \begin{cases} 6x + 8y = -3 \\ 6x - 8y = -19 \end{cases}$$

$$\text{e) } \begin{cases} 12x + 14y = 5 \\ 12x - 14y = 13 \end{cases}$$

$$\text{f) } \begin{cases} 3x + 3y = 10 \\ 9x - 6y = -20 \end{cases}$$

3) Solve the following system of linear equations by graphing:

$$\begin{cases} y = -2x + 8 \\ y - 8 = -x - 3 \end{cases}$$

4) Solve the following system of linear equations by graphing:

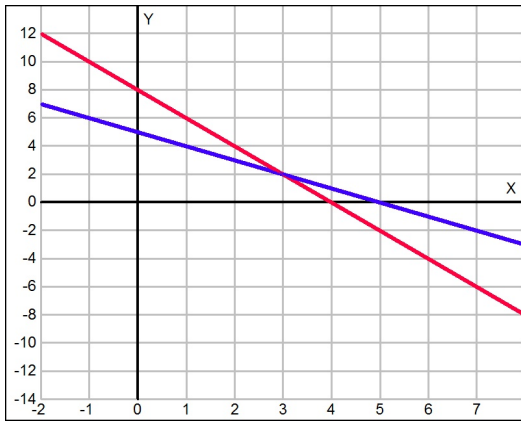
$$\begin{cases} 2x - 2 = -y - 6 \\ y = 2x + 8 \end{cases}$$

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Answers:

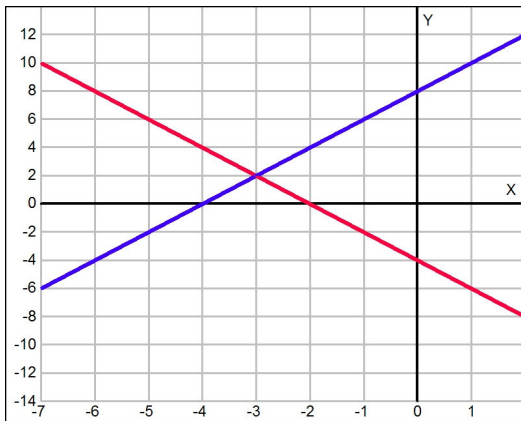
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|----|-------------------------------|---|------------------------------|
| 1) | a) $x = 3, y = -5$ | b) $x = 2, y = -1$ | c) $x = 1, y = 1$ |
| | d) $x = 1, y = -4$ | e) $x = -2, y = -4$ | f) $x = -5, y = 2$ |
| 2) | a) $x = \frac{5}{8}, y = 3$ | b) $x = \frac{-6}{13}, y = \frac{3}{8}$ | c) $x = -8, y = \frac{6}{7}$ |
| | d) $x = \frac{-11}{6}, y = 1$ | e) $x = \frac{3}{4}, y = \frac{-2}{7}$ | f) $x = 0, y = \frac{10}{3}$ |

3) Graph:



Intersection point: $(3, 2)$.

4) Graph:



Intersection point: $(-3, 2)$.