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### 2.4.DI(A) - SOLLING SYSTEMS OF EQUATIONS GRAPHICALLY

Solve the system of linear equations graphically. Write your solution as an ordered pair $(x, y)$. If the system has no solution or infinitely many solutions, then so state.


$$
y=2 x+3
$$

4. $y=-\frac{1}{3} x-4$

5. $\begin{aligned} & 3 x+y=-3 \\ & 9 x+3 y=-18\end{aligned}$

- $9 x+3 y=-18$


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


$$
2 x-y=4
$$

5. $y=\frac{1}{4} x+3$

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

7. $\begin{gathered}y=-x+3 \\ 2 x+2 y=6\end{gathered}$


$$
y=-3 x+6
$$

6. $-\frac{1}{3} y=x-2$

7. $\begin{aligned} & 5 x-3 y=3 \\ & x-3 y=-9\end{aligned}$

8. $4 x-3 y=-9$
$2 x+3 y=-9$

9. $\begin{aligned} & y=-3 x+4 \\ & 3 x+y=-3\end{aligned}$

10. 

$3 x+y=1$
$6 x+2 y=10$

13. Lena graphs the system $x-2 y=3$ and $2 x-y=-3$ and determines the solution to be $(1,-1)$. Do you agree with her solution? Explain.

14. On the same set of coordinate axes, graph the lines of the following equations:

$$
\begin{aligned}
& y-2 x=1 \\
& 3 x+y=6 \\
& y=-3
\end{aligned}
$$

Write the coordinates of all the vertices of the triangle formed by the lines graphed.

15. Without graphing, decide whether the following system of linear equations has one solution, infinitely many solutions, or no solution. Explain your reasoning.

$$
\begin{aligned}
& y=3 x-5 \\
& 6 x=2 y+10
\end{aligned}
$$

