MPM 2D

SOLVING LINEAR SYSTEMS by GRAPHING

Solving a Linear System **= Finding the point of intersection between 2 linear relations**

Use the following steps:

① **Given the equations of 2 lines, choose a method to graph each line. Methods include using...**

- **x- and y-intercepts to graph the line.**
- **slope and y-intercept from $y = mx + b$.**
- **a table of values.**

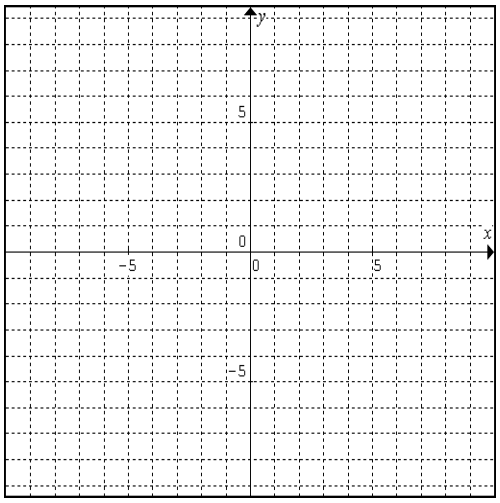
② **Graph both lines on the same coordinate system.**

- **Draw arrows at each end of the line.**
- **Label each line with its equation.**

③ **Highlight the point of intersection (poi) and state the coordinates of the point.**

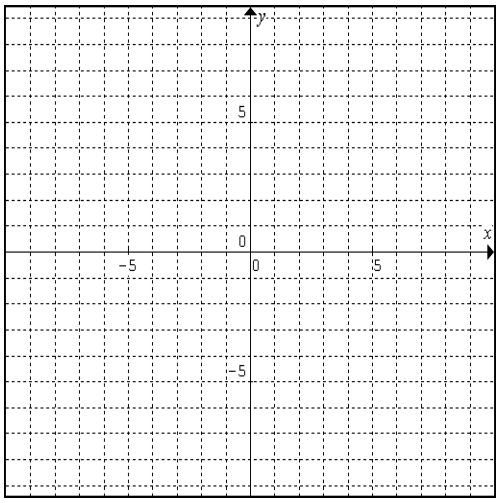
EXAMPLE 1: **Solve the linear system by graphing. Check your solution.**

$$2x - 3y = 6$$
$$x + 2y - 10 = 0$$



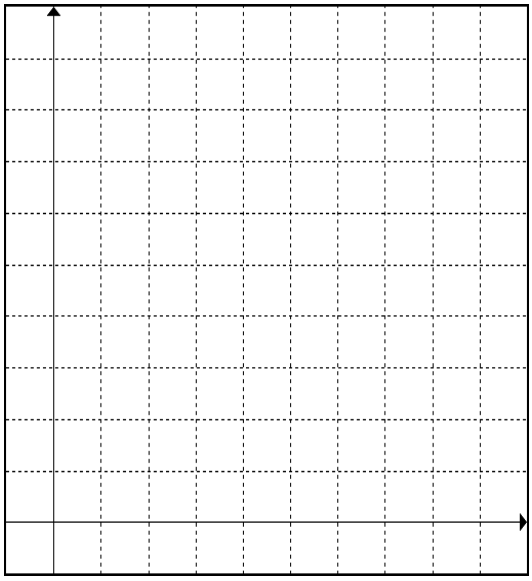
EXAMPLE 2: **Solve the linear system by graphing.**

$$y = -3$$
$$6x - 5y + 5 = 0$$



EXAMPLE 3:

A taxicab company charges a $5 flat fee plus $3 per kilometre of distance travelled. A second company charges an $8 flat fee plus $2.50 per kilometre travelled. Which company has the better offer? Explain.



EXAMPLE 4:

Sindi is considering a new cell phone plan. Company A charges $40 per month for unlimited calls made within Canada. Company B charges a monthly flat fee of $25 plus $0.05 per minute. Which company should Sindi choose? Explain.