**Unit 4: Systems of Equations**

**Learning Target: Solve Systems of Equations by Graphing**



 **Solve the system *y* – 2*x* = 4 and *y* = 2*x* by graphing.**

Write *y* – 2*x* = 4 in slope-intercept form.



Graph each equation on the same coordinate plane.



The lines appear to be parallel. So, there is no solution.

 **Model with Mathematics Refer to the graphic novel frame below for Exercises a-b.**



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**a.** The equation *y* = 0.71*x* represents the total cost *y* of *x* tickets at the rate of 7 tickets for $5. The equation *y* = 25 represents the cost of a wristband. Graph each equation on the same coordinate plane.

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**b.** How many rides must each person ride for the wristband to be the better deal?

Find the intersection point of the two lines to find the place where the cost is the same for individual tickets and for the wristband.

The two lines intersect at 35 tickets. Since each ride uses 2 tickets, 35 ÷ 2 = 17.5 rides. So, the wristband is a better deal at 18 rides.