

4.3: Graph using Intercepts

“I WILL

...Graph a Linear Equation using Intercepts.”

I. Definitions

A. Linear Standard Equation is: $Ax + By = C$

1. ____-Intercept ($Ax = C$) value of ____ when ____ = 0
2. ____-Intercept ($By = C$) value of ____ when ____ = 0

B. 2 ways of finding graphs quickly

1. “Cover-Up” Method
2. Slope-Intercept Form

II. Solving for Intercepts

A. Make sure it is in Linear Standard Form: $Ax + By = C$

B. To get the x -intercept, cover up the y terms by isolating it.

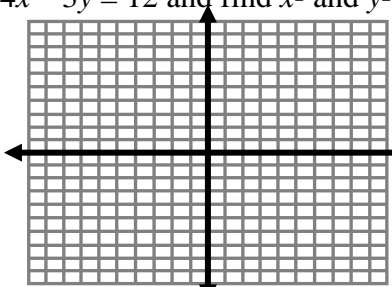
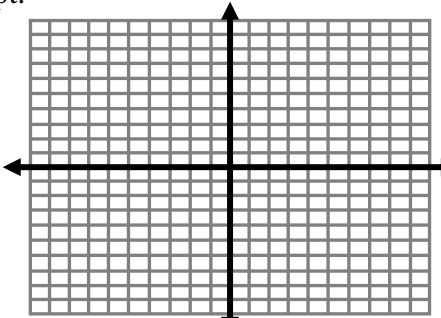
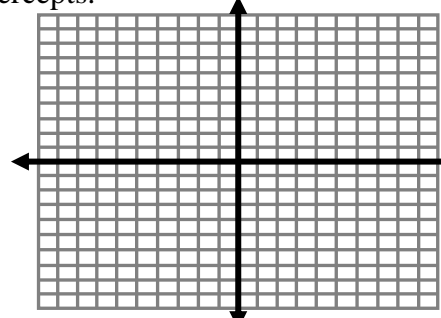
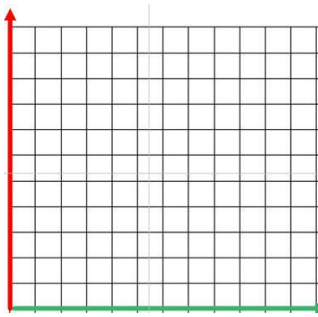
C. MUST LABEL IT AS A POINT and NOT AS AN EQUATION

D. Solve for x .

E. Do the same for y -intercept, cover up the x terms and solve for y .

III. Model Problems

Ex 1: Find x - and y -intercept of the graph, $3x + 4y = 12$.	Ex 2: Find x - and y -intercept of the graph, $2x + 7y = 28$.
Ex 3: Find x - and y -intercept of the graph, $4x - 2y = 10$.	Your Turn: Find x - and y -intercept of the graph, $-3x + 5y = -15$.

<p>Ex 4: Find x- and y-intercept of the graph, $y = 4x + 10$.</p>	<p>Ex 5: Find x- and y-intercept of the graph, $y = -2 + 8x$.</p>	<p>Ex 6: Find x- and y-intercept of the graph, $y = 3/5x - 12$.</p>
<p>Your Turn: Find x- and y-intercept of the graph, $y = -14x + 7$.</p>	<p>Ex 7: Graph $4x - 3y = 12$ and find x- and y-intercept.</p> 	
<p>Ex 8: Graph $-7x + 6y = 42$ and find x- and y-intercept.</p> 	<p>Your Turn: Graph $x - 12y = 6$ and find x- and y-intercepts.</p> 	
<p>Ex 9: You are helping to plan an awards banquet for your school, and you need to rent tables to seat 180 people. Tables come in two sizes, small tables that seat 4 people and large tables that seat 6 people. This situation can be modeled by $4x + 6y = 180$ where x is the number of small tables and y is the number of large tables. Find the intercepts, graph the equation, and plot at least 4 possibilities.</p> 	<p>Your Turn: You make and sell bows. You sell small bows for \$3 and large bows for \$5. You want to earn \$60. The equation is $3x + 5y = 60$ where x is the number of small bows and y is the number of large bows. Find the intercepts, graph the equation, and identify at least 3 possibilities.</p> 