

Graphing Equations

Graphing Equations

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Summary	Students will practice moving between graphs and equations of functions, as well as identifying the y-intercept and slope.
Goals	<ol style="list-style-type: none">1. Notice how different variations of a slope alter all aspects of a function.2. Practice identifying slope and y-intercept in equations and graphs.
Materials	Handouts
Duration	50 minutes
Keywords	Fractional Slope Interpretation of Equations Interpretation of Graphs Linear Functions Negative Slope Production of Equations Production of Graphs Slope x-intercept y-intercept

Activity Plan:

1. Students are given the **algebraic notation** for the following functions and are asked, for each equation, to identify the y intercept, determine the slope, and then create the graph.

Equations (Handout Pages 1-6):

$$y=3x-7$$

$$y=-3x+1$$

$$y=1/3x-2$$

$$y=(-2/6)x+4$$

$$y= 3$$

2. In the second part of the activity, students are given the **graphs** corresponding to the following functions and are asked to identify the y -intercept and the slope for each graph and to create the corresponding equations. (Optional: identify the x -intercept.) (Handout Pages 7-10)

$$y=x-6$$

$$y=-4x+3$$

$$y=(1/4)x-4$$

$$x=6$$

Handout: Graphing equations

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Name: _____ Date: _____

For each equation, identify the **y intercept**, determine the **slope**, and then **create the graph**.

Complete the following table for each one of the written equations.
Equations:

Equation	y-intercept	Slope
a. $y=3x-7$		
b. $y=-3x+1$		
c. $y=1/3x-2$		
d. $y=(-2/6)x+4$		
e. $y= 3$		

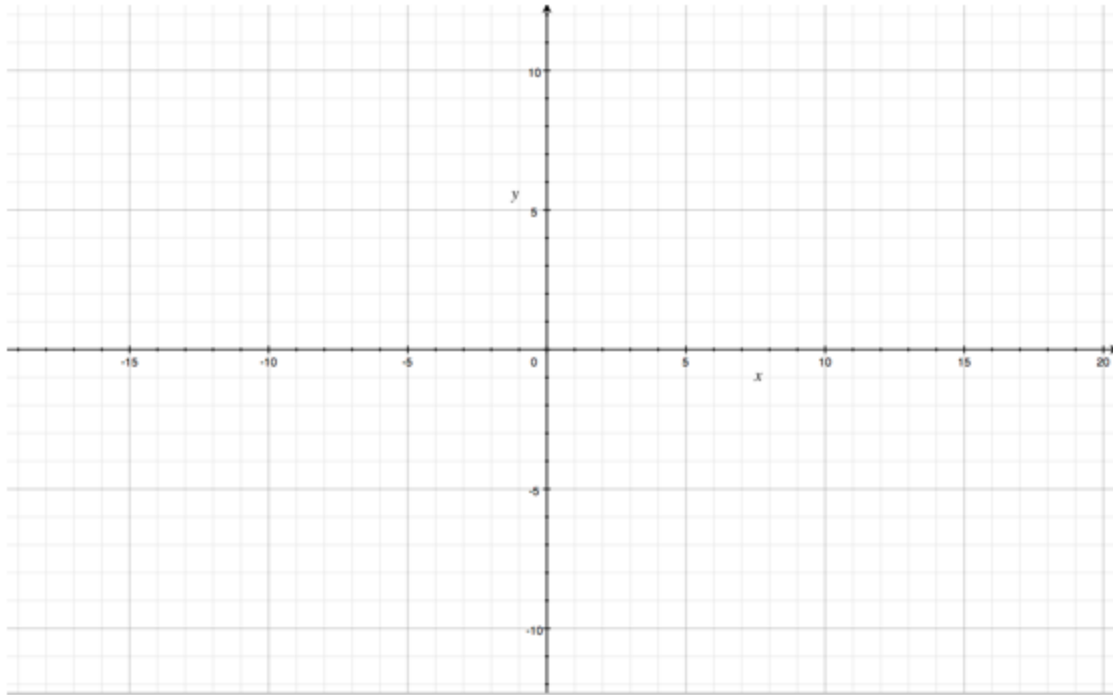
For each of the equations a-e, please graph them in each of the 5 coordinate systems provided below:

Handout: Graphing equations

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Name: _____ Date: _____

Equation a:

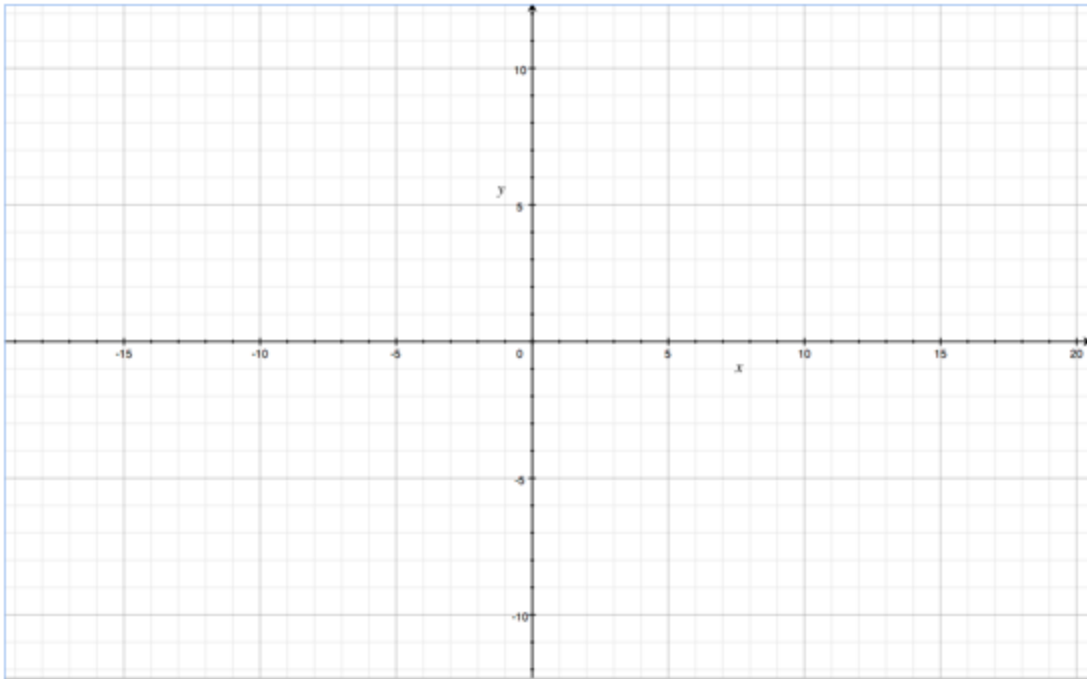


Handout: Graphing equations

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Equation b:

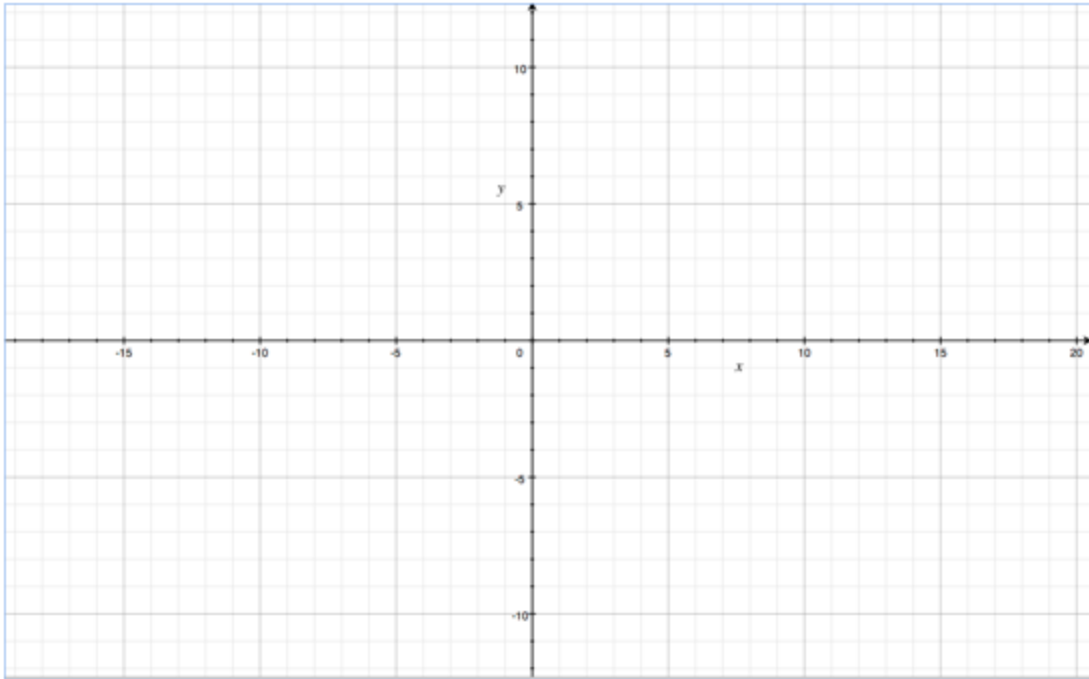


Handout: Graphing equations

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Name: _____ Date: _____

Equation c:

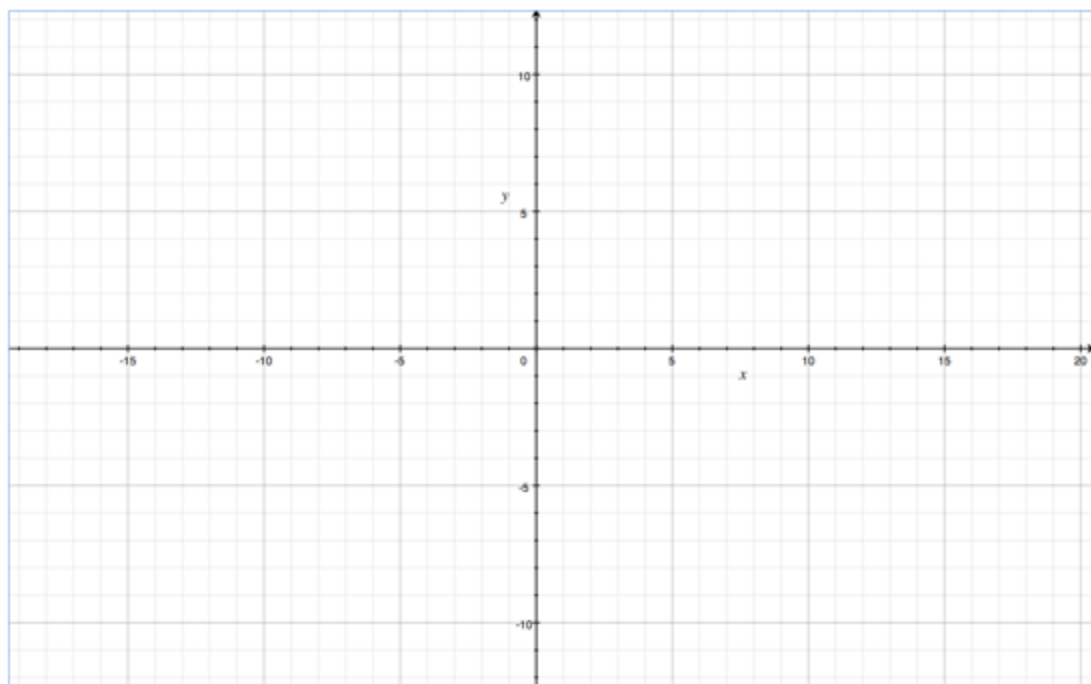


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Equation d:

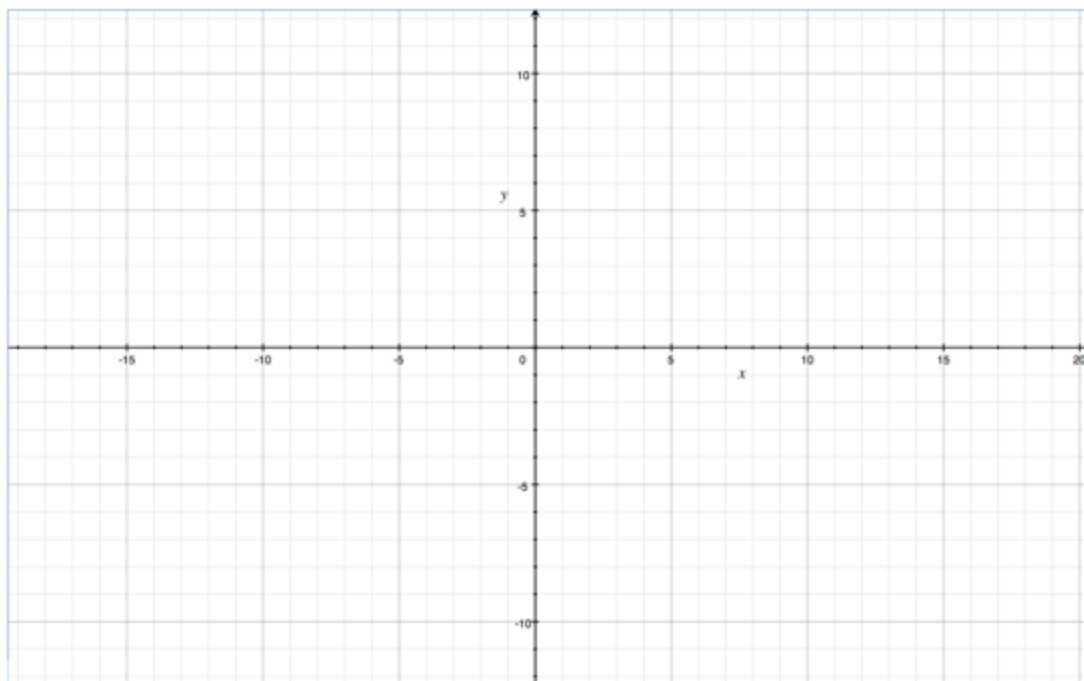


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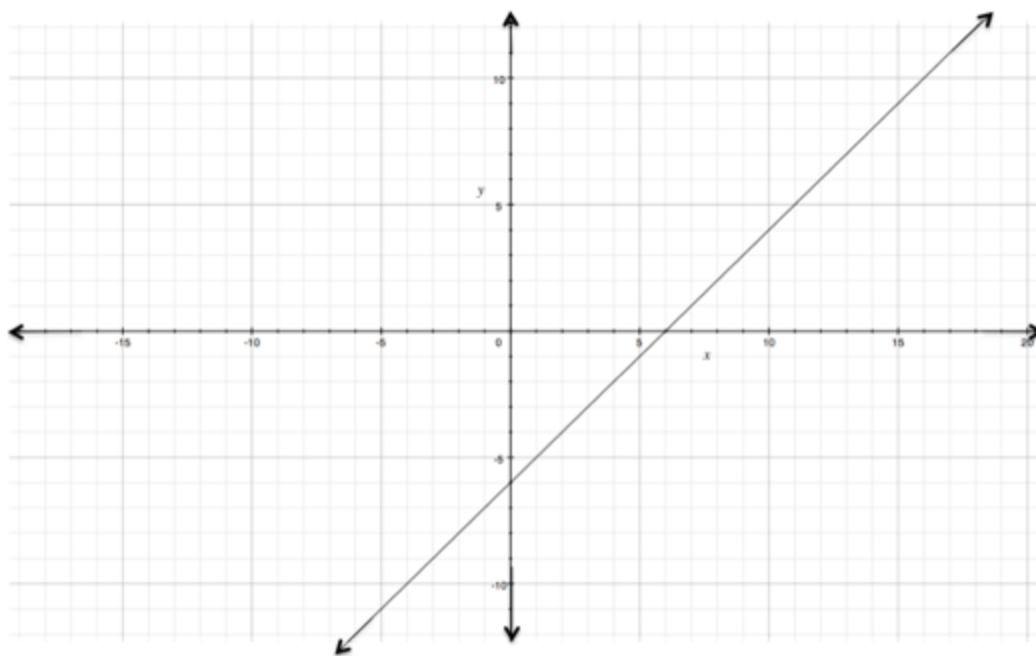
Name: _____ Date: _____

Equation e:



Name: _____ Date: _____

Function f :

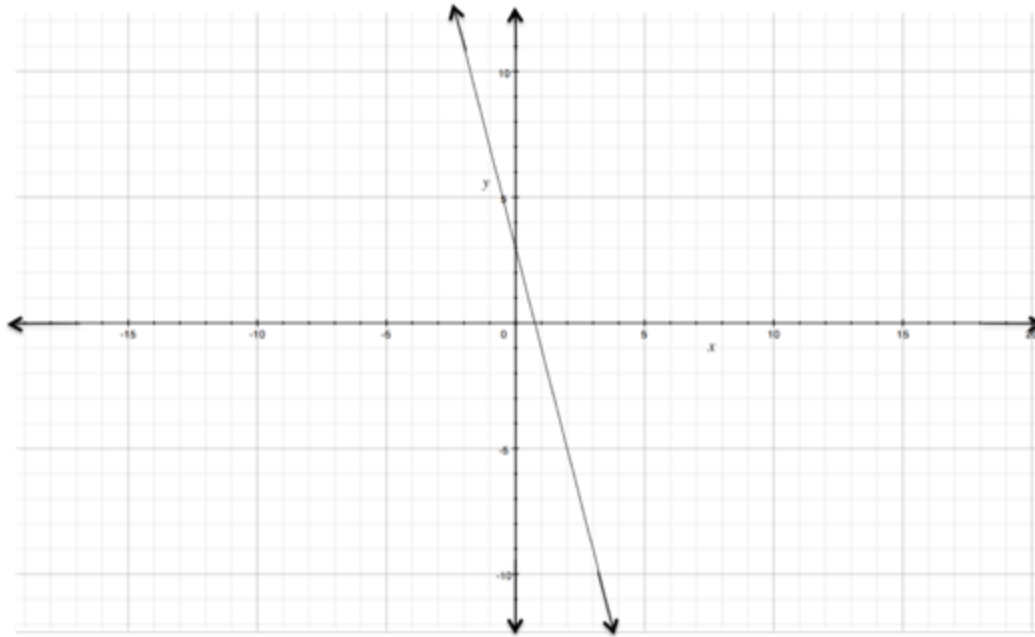


For the above function f , complete the following information:

1. y -intercept:
2. slope:
3. x -intercept:
4. equation:

Name: _____ Date: _____

Function g:

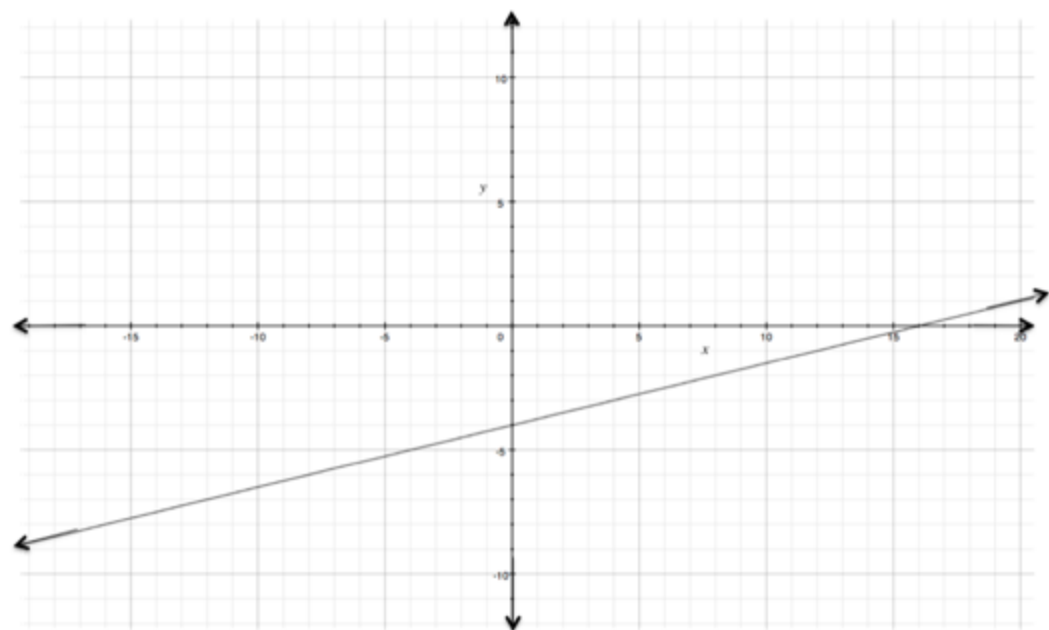


For the above function g, complete the following information:

1. y-intercept:
2. slope:
3. x-intercept:
4. equation:

Name: _____ Date: _____

Function h:



For the above function h, complete the following information:

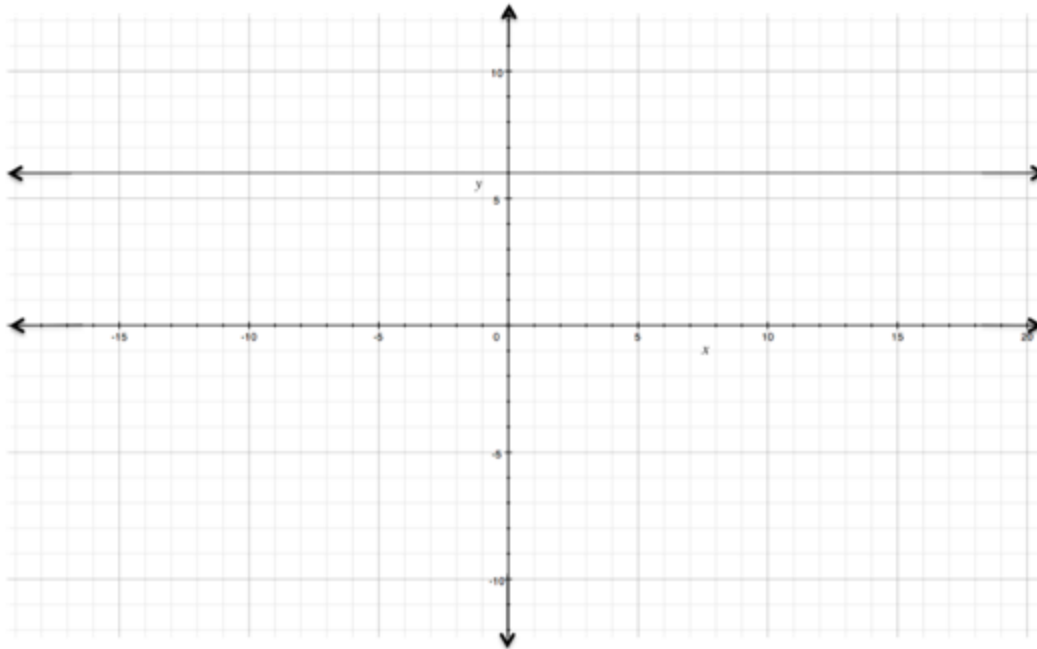
1. y-intercept:
2. slope:
3. x-intercept:
4. equation:

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Function j :



For the above function j , complete the following information:

1. y -intercept:
2. slope:
3. x -intercept:
4. equation: