

x & y intercepts

Discovery Activity – ID: 9630

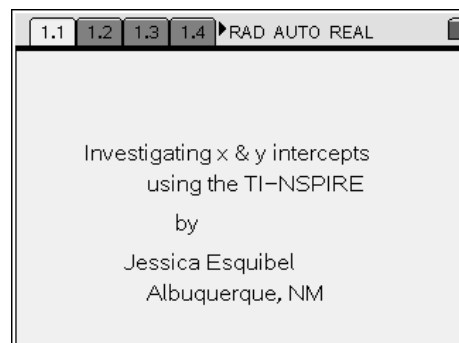
Name _____

Class _____

In this activity, you will explore:

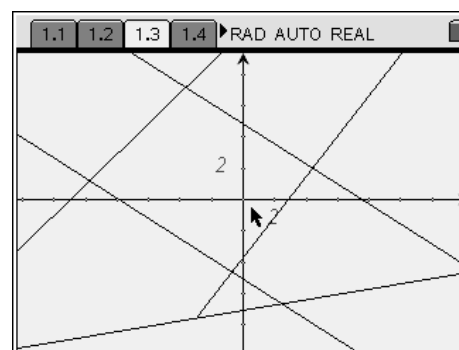
- *x* and *y* intercepts in multiple representations
- graphing using *x* and *y* intercepts

Open the file *Alg1_x&yintercepts_EN.tns* on your handheld and follow along with your teacher to work through the activity. Use this document as a reference and to record your answers.

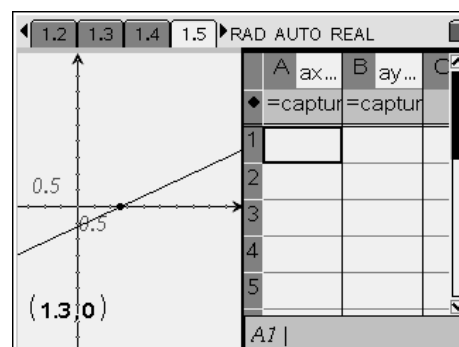


Problem 1 – x intercepts

1. What is the difference in definition between *x* and *y* intercepts and intersection? Record where you and your group put your points.



2. What pattern do you see as you manually collect the data on page 1.5? Fill in the data you collect to the right.



3. What patterns do you see? Is this the same or different from the previous graph on page 1.5?
4. Given the equation of the line on page 1.8, how can we prove algebraically the point is the x-intercept?
5. What is an x-intercept?
6. a) Find the x –intercept of the line $y = -\frac{1}{2}x - 4$ algebraically. Show your work.

b) Find the x-intercept of $y = 3x + 7$ algebraically. Show your work.

Problem 2- y intercepts

7. What pattern do you see as you manually collect the data on page 2.1? Is this the same or different from the previous graphs?
8. Given the equation of the line how can we prove algebraically the point is the y-intercept?
9. What is a y-intercept?
10. a) Find the y-intercept of $y = 3x + 12$ algebraically. Show your work.

b) Find the x and y intercept of the equation $4x - 6y = 12$ algebraically. Show your work.
11. What is the y-intercept of the graph?
Find the x-intercept from the table.