Name: _____ Date: _____ Period: _____

Unit 6 Day 7 - Equations of Parallel Lines Classwork

Remember arithmetic sequences?

1. Find the next 2 terms in this sequence: -7, -4, -1, 2, 5, …

2. Put your sequence into a table:

Term #	1	2	3	4	5	6	7
Value							

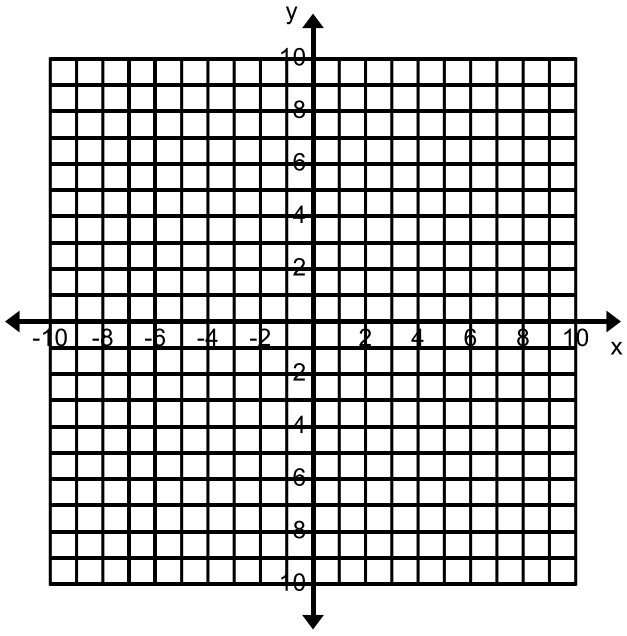
3. Remember that we wrote explicit equations for arithmetic sequences, like f(x) = -7 + 3(x-1). Explain how each part of that equation is related to the sequence in the table:

4. Write three more explicit equations for the sequence in the table:

5. What is the "zero term" for this sequence? Add it to your table.
   Write an equation for this sequence using the zero term:

6. Turn your table into a list of ordered pairs:

7. Graph the sequence/ordered pairs and connect the dots to make a line:

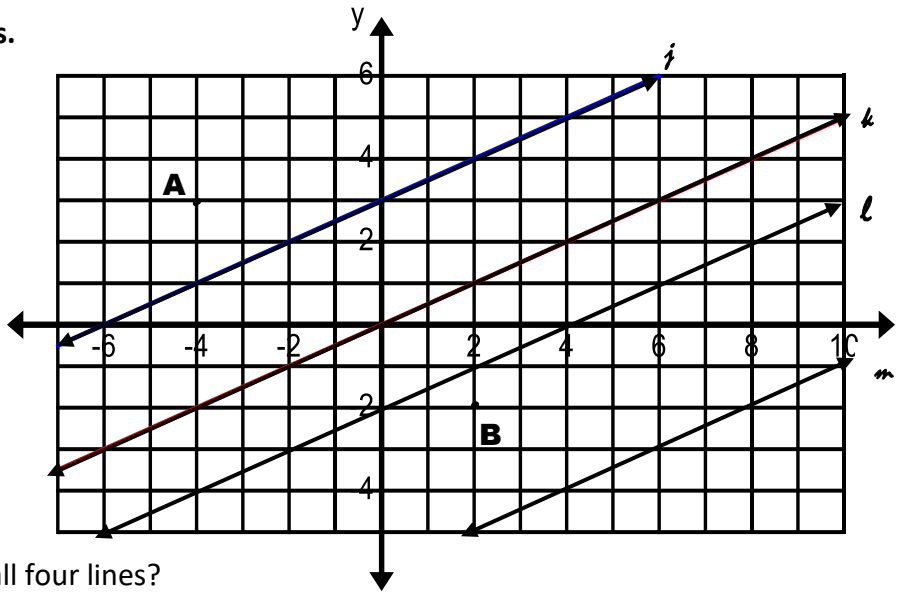


8. Write an equation in slope-intercept form (y = mx + b) for the line you just graphed.

9. How are your equations from #4 similar to the equation you just wrote for #8?

   How are they different?

At the right is a graph of four parallel lines.



10. Write the equation of each line.

Line j:

Line k:

Line l:

Line m:

11. What is the same in the equations of all four lines?

12. Write an equation of a line through Point A and parallel to line j.

13. Write an equation of a line through Point B and parallel to line m.

14. Are the two new lines parallel? How do you know?

15. Write an equation of a line parallel to $y = -\frac{1}{2}x + 4$ and through point (-2,4)

16. Write an equation of a line parallel to $y = 3x - 2$ and through point (1,-1)

17. Big idea for the day - How is the back of this classwork related to the front?

Point-slope form of a line: