

Introduction to Derivatives

All values are **integers**.**Derivative Quadratics**

1. What is the function being analyzed? _____
2. Point A is on which line f and/or a ? _____
3. For which line does m take the slope? _____
4. In the following place point A in each quadrant and record the information requested:

Please note that you might not be able to place it in a quadrant. If you place it on a point it might be that the point isn't exact but if rounded it would be (just go ahead and round it.)

<u>Quadrant II</u> Point A: _____ Point B: _____ Slope m : _____	<u>Quadrant I</u> Point A: _____ Point B: _____ Slope m : _____
<u>Quadrant III</u> Point A: _____ Point B: _____ Slope m : _____	<u>Quadrant IV</u> Point A: _____ Point B: _____ Slope m : _____

5. What pattern do you notice between point B, point A, and slope m ?

6. Complete the following table: Move point A such that x takes on the following values.

x	-2	-1	0	1	2
m					

7. What is the function you just created? _____
8. Can you describe the relation between this function and the function graphed in the program?
 If you can't describe it yet but you have a feeling that you know what it is go on and do the next part. Come back and revisit this question.

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Derivative Cubic

1. What is the function being analyzed? _____

2. In the following place point A in each quadrant and record the information requested:

Please note that you might not be able to place it in a quadrant. If you place it on a point it might be that the point isn't exact but if rounded it would be (just go ahead and round it.)

<u>Quadrant II</u> Point A: _____ Point B: _____ Slope m: _____	<u>Quadrant I</u> Point A: _____ Point B: _____ Slope m: _____
<u>Quadrant III</u> Point A: _____ Point B: _____ Slope m: _____	<u>Quadrant IV</u> Point A: _____ Point B: _____ Slope m: _____

3. What pattern do you notice between point B, point A, and slope m?

4. Complete the following table:

x	-2	-1	0	1	2
m					

5. What is the function you just created? _____

6. Can you describe the relation between this function and the function graphed in the program?

Name: _____

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Summary

What conceptual patterns can you see that are in both parts of this exercise?
