**PRINTING BOOKS PROJECT**

Purchasing decisions for a Common Core Math 1 textbook for the school system must be made. The Board of Education needs to know the costs of providing a 325-page Common Core Math 1 textbook to three different schools. The schools have agreed to pilot a new textbook this year; the publisher is making page proofs of the book available, but the schools must make the copies needed for the students. An assistant has done some research and has discovered three possibilities. You will be using the information that follows to determine which printing process would be the most economical for the school district.

In the past, the math textbook orders have never exceeded 2250 books and the cost has never exceeded $35,000. Using tables and graphs, as well as identifying general rules, slopes, y-intercepts, and points of intersection, do a mathematical analysis of these different options and write a recommendation for the Board of Education to consider.

**Directions:**

Read the project description and complete parts 1-3.

Follow the rubric to see what is expected and how it will be graded.

Your project may be a book (by hand or computer), poster, or PowerPoint.

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**PART 1**

An assistant for the Board of Education has done some research and discovered the following three possibilities for printing the textbooks. The information is as follows:

 1. A local printing company: The Common Core Math 1 textbook can

 be printed by a local printer for a cost of $9.50 per book with an

 initial cost of $5000 for typesetting.

 2. A local copy center: The Common Core Math 1 textbook can be

 duplicated at a local copying center for $0.05 per page plus

 $2.00 per book for binding.

 3. The school district: The school district’s own copying center can

 reproduce the textbook at a cost of $0.035 per page plus an

 up-front cost of $3000.

The first step in this process is to complete a table for each of the different possibilities using the information gathered by the assistant. It is suggested that you complete the table using intervals of 200 for the number of books.

1. **Local Printing Company**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of Books | 0 |  |  |  |  |  |  |  |  |  |  |  |
| Printing Co. |  |  |  |  |  |  |  |  |  |  |  |  |

2. **Local** **Copy Center**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of Books | 0 |  |  |  |  |  |  |  |  |  |  |  |
| Copy Center |  |  |  |  |  |  |  |  |  |  |  |  |

3. **School District**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of Books | 0 |  |  |  |  |  |  |  |  |  |  |  |
| School District |  |  |  |  |  |  |  |  |  |  |  |  |

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**PART 2**

In this part of the process, you will be taking the information you displayed in the tables and graphing the data on the coordinate plane provided and answered the following questions.

1. On the coordinate plane provided do the following:

Graph each of the three printing possibilities.

1. Use a different color and symbol to represent the printing options.
2. Title the graph
3. Label the axes and intervals
4. Provide a key for the graph

2. For each of the printing options:

 a) Write a NOW-NEXT rule for each of the different printing

 options. Be sure to state a starting value.

 b) Write an equation in slope intercept form for each of the

 different printing options. Identify the rate of change and

 the y-intercept for each.

 c) In complete sentences, interpret the real world meaning for

 the slope and y-intercept for each equation.

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**PART 3**

It is decided that each school in the district can choose a different printing company based on their individual needs, and the following conditions apply:

 1. Sanderson High School will need 400 textbooks next year.

 2. Leesville High School will need 550 textbooks next year.

 3. Knightdale High School will need 1400 textbooks next year.

Using each of the equations you discovered in Part 2, determine the most economical printing company for the three schools. Be sure to show all steps in calculating the cost.

The final part of the project will now require you to take all the information you have gathered and write a concise detailed recommendation to the Board of Education detailing which company would be the most economical for printing the needed Common Core Math 1 textbooks. Remember this recommendation will be used in choosing the printing company, so you should be very specific and include all pertinent information.

**BONUS:** Search for possible options for Common Core Math I (popular publishers are Pearson, Glencoe, Holt). Choose one and print out information about the book: Cost, Year of Publication, Title, Author, picture, etc)

**PRINTING BOOKS PROJECT RUBRIC**

|  |  |  |
| --- | --- | --- |
| **Project** | **What is expected** | **Total Points** |
| Part 1:Tables | * Table for each company (3)
* Intervals of 200 for each company
* Use tables premade and fill in blanks
 |  /20 |
| Part 2:Graphs & Questions | * Graph for each option on ONE graph
* Use a different color and symbol for each option
* Graph must include:
	+ Title, Labeled axes and intervals, a key for the graph
* Now-Next rule for each option with start
* Equation for each option with slope & y-intercept identified
* Complete sentences of real world meaning for slope and y-intercept for each equation
 | /35  |
| Part 3: Best Option &Letter | * Find best option for each of the high schools (3) and explain why it’s the best
* Show all work involved with finding the best option
* Use all data to write a recommendation to the Board of Education
* Letter must:
	+ Be at least one page and typed
	+ The company you choose and all data and details of why that company is the best (Remember you’re persuading your audience)
	+ Have correct spelling and grammar
 | /35 |
| Presentation | * Project is neat
* Project is creative
 | /10 |
| Bonus | * Information about a Common Core Math 1 Textbook
 | /5 |
| Total |  |  /100 |