

Workplace Mathematics 11

Unit 3 Project: SLOPE

LG's 7 - 9

Read through the information below and use it to complete the sections which follow. Be sure to answer each question and show your work clearly to demonstrate how you got your answers. /25 marks

Sean has written a book and needs to decide on a publishing company. Two companies are interested in publishing his book and he wants to compare his options. Sonic Publishing offers him royalties of 10% on book sales. Thunder Publishing offers him \$1 500 dollars for the rights to the book, plus royalties of 5% on book sales. Each book sells for \$15.

1. For each of the two publishing companies:

a) Write a formula for each publishing company which can be used to calculate how much money Sean will make from the sale of his books. (1 mark)

b) Complete the following table of values for each publishing company. (3 marks)

Sonic Publishing:

Number of books sold	Money(\$) that Sean makes from book sales
0	
1000	
2000	
3000	
4000	
5000	

Thunder Publishing:

(3 marks)

Number of books sold	Money(\$) that Sean makes from book sales
0	
1000	
2000	
3000	
4000	
5000	

c) Identify the independent and dependent variables from the chart. (1 mark)

d) Plot the points from the charts to make a graph which shows the information for both publishing companies on the same graph. (* Remember that the dependent variable is on the vertical axis and the independent variable is on the horizontal axis). (4 marks)

2. a) Choose two points from the graph and find the slope of each line (one for each publishing company). (2 marks)

b) Explain what the slope represents. (1 mark)

3. Each company is planning a first edition of 5000 books. The price of each book will be \$15. Use the formulas and chart calculations in your previous questions to help you answer the following questions. Assume all 5000 books are sold.

a) How much does Sean earn with each company if all 5000 books are sold? (1 mark)

b) Which publishing company pays Sean more money? (1 mark)

c) How much more money does that company pay? (1 mark)

4. a) There is a point on the graph that shows when both publishing companies pay Sean the same amount of money. What is that amount of money? (1 mark)

b) How many books are sold at the point when both publishing companies pay Sean the same amount of money? (1 mark)

c) Which company pays Sean more if sales are higher than this amount? (1 mark)

d) Is this from the line with the steeper slope? (1 mark)

e) Which company pays him more if sales are less than this amount? (1 mark)

5. What are the advantages for Sean if he chooses:

a) Sonic publishing (1 mark)

b) Thunder publishing (1 mark)