

Student Activity: To investigate the effect of doubling the amount of pocket money every day given that 2 cent was received on the first day

Use in connection with the interactive file, '2 Cents', on the Student's CD.

1. A daughter said to her father, "This is the pocket money I would like for this month. I want 2 cents on the first day of the month, 4 cents on the second day, and double that again for the 3rd day ... and so on. That is all I want."
 - a. Make a table to show how much money she will get for the first 10 days of the month.

Day	Money received
1	2
2	
3	
4	
5	
6	
7	
8	
9	
10	

- b. Describe in your own words, the pattern that is shown in the above table.

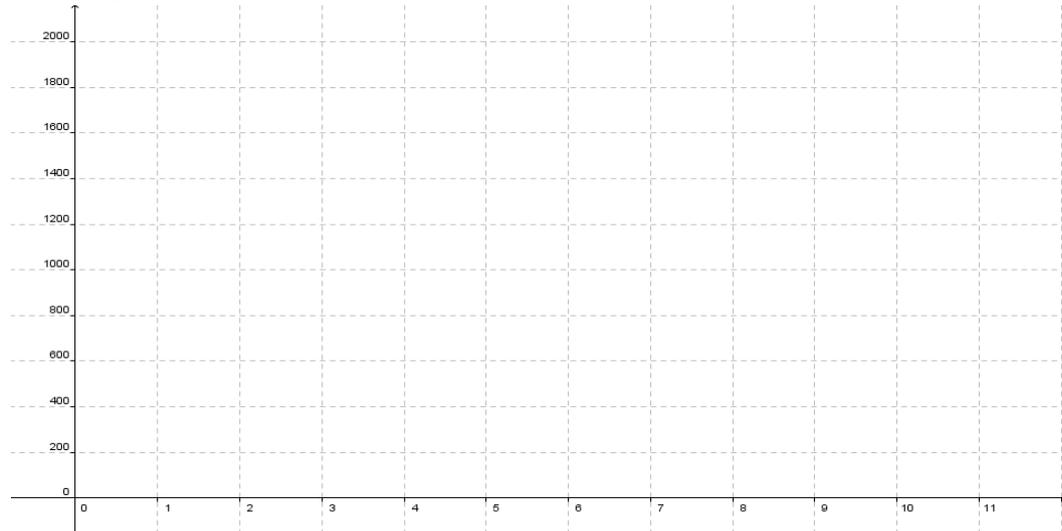
- c. Write down a mathematical formula that would represent the above situation.

- d. Do you think the graph of this relationship is going to be linear or quadratic? If neither, state what type of graph you think it will be. Explain your answer.

- e. Is this a good deal for the daughter or the father? Explain why you choose your answer.

- f. Is the money the daughter gets per day in cents or in Euros? How would you convert it to Euros?

g. Draw a graph to represent the information contained in the table in part a.



h. How much money in total will she have at the end of day 10?

i. Using a calculator, calculate how much money she will get on day 30.

j. To see how the situation described in question 1 would differ from a situation where the daughter was told she would get 2 extra cents each day answer the questions below.

i. What would be the start amount of money?

ii. How much would she have in total at the end of day 10?

iii. What would be different about the graphs?

2. By moving the slider 'a' in the interactive file from 2 to 3, see what happens to the graph if instead of doubling the amount of money each day it was trebled.

i. Describe what happened to the graph and how it compares to the first graph.

ii. From the table on the interactive file can you work out how much money she receives on day 15 if the amount of money is trebled each day?

iii. What is the total amount of money she will have received at the end of day 15?
