

Math Domain

- | | | |
|---|--------------------------------------|---|
| <input checked="" type="checkbox"/> Number/Quantity | <input type="checkbox"/> Shape/Space | <input type="checkbox"/> Function/Pattern |
| <input type="checkbox"/> Chance/Data | <input type="checkbox"/> Arrangement | |

Math Actions (possible weights: 0 through 4)

- | | |
|--|--|
| <input type="checkbox"/> 2 Modeling/Formulating | <input type="checkbox"/> 3 Manipulating/Transforming |
| <input type="checkbox"/> 3 Inferring/Drawing Conclusions | <input type="checkbox"/> 3 Communicating |

Math Big Ideas

- | | | |
|--|---|--|
| <input type="checkbox"/> Scale | <input type="checkbox"/> Reference Frame | <input type="checkbox"/> Representation |
| <input type="checkbox"/> Continuity | <input type="checkbox"/> Boundedness | <input type="checkbox"/> Invariance/Symmetry |
| <input type="checkbox"/> Equivalence | <input type="checkbox"/> General/Particular | <input type="checkbox"/> Contradiction |
| <input type="checkbox"/> Use of Limits | <input type="checkbox"/> Approximation | <input type="checkbox"/> Other |

Part 1: Compound Interest

- Parents would add .12, for a total of \$1.31.
- Using the attached sheet to keep track of their calculations, students should come up with about \$16.00 at the end of the month.
- Using the attached sheet to keep track of their calculations, students should arrive at about \$280.00
- The students will have a little over \$450.00 in their bank account at the end of five years.

Part 2: Delaying Compound Interest

- After 30 days, the student has \$16.00; after 27 days, the student’s sister has \$13.22, and therefore loses \$2.78 by delaying the compounding for three days.

Part 3: Credit Cards

- The total amount at the end of 30 days would be about \$1,387.
- You would owe \$612.00 at the end of the first month, or about \$761 if you wait a year to pay it off.

Some students may notice that their answers correspond to days 1 and 12 from the previous question, and may not bother filling out the chart.

Part 4: Putting it Together

The student should write a letter that reflects what they have learned about compound interest, credit card interest, and the growth of money.

	partial level (1 or 2)	full level (3)
Modeling/ Formulating (weight: 2)	Student does not demonstrate an understanding of how compound interest grows..	Student exhibits an understanding of compound interest and is able to apply that understanding to the questions in Part I of the task.
Transforming/ Manipulating (weight: 3)	Student performs some, but not all of the calculations correctly.	Student is able to perform all calculations correctly, and is consistent in the rounding method used.
Inferring/ Drawing Conclusions (weight: 3)	Student does not exhibit an understanding of the difference between adding interest and charging interest , and/or why different time periods affect the final amount.	Student exhibits a clear understanding of what happens to money invested at different rates, and for differing periods of time.
Communicating (weight: 3)	Verbal explanations are unclear or imprecise.	All verbal explanations are clear, concise, and complete.